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Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 and 1847,

By Bransby B. Cooper, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture XLVI.

STONE IN THE BLADDER—CONTINUED.

Choice of means for the removal of a stone from the bladder—Lithontriptics generally inefficient—Lithotrity preferable in some cases to lithotomy—Circumstances under which it may be adopted—Preparation of the patient—The operation—Necessary precautions after treatment—A portion of the broken stone sometimes lodges in the urethra—Removal by an instrument, by cutting—Probable effect—Best means of healing the wound—Difficulties that may arise in the operation of lithotrity — Use of scoop lithotrite — Seizing the calculus with the lithotrite—Operation of lithotrity—Easy of performance—Case—Circumstances in which lithotomy ought to be employed instead of lithotrity—Preparatory treatment of the patient—Varieties of the operation—High operation—Cases—Lateral operation—Instruments. Mr. Key's straight staff—Necessity for mature reflection before deciding upon performing this operation.

After a due consideration of all the peculiarities of a case of stone in the bladder, both with reference to the constitution of the patient and concomitant local circumstances, the surgeon is called upon to decide, firstly, as to the expediency of attempting the removal of the stone by operation; and secondly, whether the operation of lithotrity, or that of lithotomy, ought to be preferred; or whether, instead of the operation, it be advisable to endeavour to effect the solution of the stone within the bladder, by the employment of menstrua technically termed lithontriptics. In the use of the latter the object must be either the entire solution of the calculus, or its complete disintegration, so that it may be carried off with the urine in the form of detritus; and many different agents have been administered for these purposes, both in the form of internal remedies, and as injections into the bladder.

I appeal to experience as to the result of the trials which have been made with lithontriptics, and believe I may venture to say, that we are not at present possessed of any medicine capable of dissolving, with safety to the patient, a calculus already formed, either in the kidney or bladder: but although such a remedy has not yet been discovered, we ought not to despair of the accomplishment of this desirable object, remembering the great benefit that has already been derived from the application of the science of chemistry to the treatment of stone. Neither can much be said for the efficacy of injections for the cure of stone: for as yet we have no evidence of their power to remove a calculus when once formed; although, like medicines taken internally, they may sometimes relieve the suffering produced by a stone in the bladder. Dietetic observances, alkaline remedies with opiates, and diluent drinks with injection of the bladder, may all, or each, afford relief; but no hopes can be justly entertained of their producing a cure of the disease.

Lithotrity.—Our attention must next be devoted to the consideration of the circumstances under which the operation of breaking down the stone, technically termed lithotrity, is to be preferred to the operation of lithotomy. This subject has occupied the attention of many eminent surgeons, and lengthened dissertations have been the result. I think, however, that very few words need be said on the subject. There can be no doubt that there are cases in which lithotrity is infinitely preferable to lithotomy; and it is equally true, that there are many others to which it is wholly inapplicable: nor are the means of judging between these two conditions at all difficult; and the circumstances which should regulate the choice are few, and easily appreciated. In cases of small stone, and when the bladder is capable of containing about six ounces of water for a considerable time, I believe the operation of lithotrity may always be recommended; and not even a moderately diseased state of the kidneys need prohibit this operation, although in lithotomy the same extent of disease would involve a considerable increase of danger: indeed, the operation of crushing the stone is comparatively so simple, that there is a just hope of the condition of the kidneys becoming improved after the removal of the calculus, unless they have undergone some organic change; and even then improvement may be expected from the removal of so great a source of irritation.

A patient requires but little preparation for the operation of lithotrity; the principal circumstance to be ascertained is, whether the bladder is capable of retaining a sufficient quantity of fluid to keep it in a fit state of distension to allow the lithotrite to act without danger of injury to the coats of the organ. If the bladder be irritable, the operation

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should not be immediately performed; but remedies should be first administered to alleviate this symptom; and tepid water should be daily injected into the bladder, gradually increasing the quantity and period of its retention until the patient is capable of holding six ounces long enough for the performance of the operation, which may then be considered safe, no further preparatory treatment being required beyond merely opening the bowels freely. The operation being decided on, the most convenient position in which the patient can be placed is sitting in a semi-recumbent posture upon the foot of a low bed, with his feet resting upon two chairs, sufficiently separated to allow the operator to sit conveniently between them. The bladder should next be injected with about six ounces of tepid water, and the lithotrite then carefully and gently passed into the bladder,—not with the same motion of the hand as that by which the sound or catheter is introduced, but being rather pushed or pressed onwards, the penis being drawn forwards upon the instrument. As soon as the instrument has entered the bladder, the screw should be turned to release the blades from its influence, and they should then be separated, so as to be ready to grasp the stone: if at this time any water makes its escape by the sides of the lithotrite, an assistant should press the urethra against it, to prevent the flow. The operator now standing up before the patient, presses the convexity at the end of the lithotrite with considerable firmness upon the inferior region of the bladder, and, giving the lithotrite a gentle tap, the stone naturally falls into the cavity, so as to render that part most depending: and being immediately felt by the instrument, is easily grasped by closing the blades: by the action of the screw, it is now to be broken down, and piece after piece seized until the whole is crushed into fragments sufficiently small to pass as detritus through the urethra. As to the number of times the stone may be seized, no definite directions can be given; this must depend upon the temperament of the patient, and the degree of suffering produced by the operation; but the surgeon should remember that the more he can safely do at the first operation, or "sitting," the better. Every time the lithotrite is passed, the approximation of the blades should be secured by turning the screw to its fullest extent; a precaution which is not always taken, but which is important, as it prevents the possibility of the blades separating during their passage through the urethra, and the consequent liability of injury to its membrane. After the operation the bladder should be washed out by injecting it with considerable force, and the water should be drawn off through the catheter as rapidly as it can be made to flow; in this effort a considerable quantity of detritus is generally brought away: but this is not invariably the case, for it sometimes happens that but few fragments come away directly, although the stone may have been effectually crushed. The patient should not be allowed to walk or move about after the operation, but should be immediately put to bed, and a large dose of opium administered, to check the liability to rigor, as well as to overcome the irritability of the bladder necessarily excited by the irritation to which it had been subjected. The prevention of the rigor is a matter of the greatest importance; for if it be not checked at first, by the opium, there is not only the ill effect of the one attack to overcome, but it seems as if the patient became subject to its recurrence; while, on the contrary, if it be stopped at first, he seems to be but little liable to it subsequently. This fact was first mentioned to me by my friend Sir Benjamin Brodie; and I am from experience thoroughly convinced of the accuracy of his judgment on this as on every other surgical subject. For the first two or three days after the operation, the patient should be kept in bed, and should pass his water in the recumbent posture, not attempting to force the fragments away with his urine until the irritability of the bladder has ceased; he should then micturate in the erect posture, or even lean forwards, so as to direct the broken portions of stone towards the urethra. If a fragment becomes lodged in the passage, its extrication should not be immediately attempted, but a dose of opium be given, and the patient kept in bed to await the chance of the stone passing with the next flow of urine. Should this not happen, and the patient still retain the power to pass the urine, the surgeon should not yet interfere; but if the urine cannot escape, the fragment of stone must be removed by mechanical means. For this purpose, various instruments have been invented, such as forceps of different forms; but the best contrivance I have seen, and which I have found upon one or two occasions perfectly efficient, is a French instrument, made in the form of a straight staff, with a joint at the extreme end and a screw at the top. This instrument is of small size, as it is intended to pass beyond the foreign body in the urethra; when thus placed, the screw is turned, and, acting upon the little joint at the extremity, brings it to a right angle with the shaft of the staff; then upon gently withdrawing the instrument, the stone is necessarily brought up with it. Sometimes, however, these means may fail; and then it will be requisite to cut the portion of the calculus out of the part in which it is fixed. Fortunately this necessity occurs most frequently at the orifice of the urethra, which is the narrowest part of the canal, and the operation is a matter of no danger as to result. Not so, however, when the stone becomes impacted lower down; for although there may exist little obstacle to its removal, it may prove afterwards very difficult to heal the opening, in which case a fistulous passage, termed a traumatic hypospadius, may permanently remain. Before, therefore, the surgeon proceeds to cut out a fragment which is impacted low down in the urethra, every means should be attempted to effect its passage with the urine. Opiates, warm-bath, and tartarized antimony, should be exhibited; and if these remedies fail, it should, if possible, be pushed back into the bladder, in order that it may be further broken down by the lithotrite. If, however, it be found impossible to push the fragment back into the bladder, then, and not till then, should it be cut down upon, and removed from the urethra; and when it becomes actually necessary to cut into the perineum to remove the calculus, I believe the best method of healing the opening, or rather to facilitate its healing, is to use the catheter for the first week or ten days, whenever the patient requires to pass his water, so that no urine may pass through the wound; and this plan I think preferable to that of leaving an instrument constantly in the bladder, as the urine has a tendency to escape between the urethra and the catheter, and to produce great irritation.

It must not be supposed, from this description of the operation of lithotrity, that it is without its difficulties. This is not the case; and these difficulties may arise from many different sources: one of the most frequent of these is perhaps a congenital narrowness of the meatus of the urethra, which is sometimes so contracted at its orifice as not to admit of the entrance of the lithotrite. This may generally be remedied by enlarging the opening by means of a probe-pointed bistoury; for the contraction does not often extend far into the canal, which, through the remainder of its length, is usually of the normal size. Where stricture of the urethra is present, a great obstacle is also opposed to the introduction of the lithotrite; and before it can be employed, the obstruction must be overcome by the use of instruments: indeed, if the stricture cannot be removed so that the urethra is restored to its natural capacity, the operation of lithotomy must be substituted for that of lithotrity.

The dread with which a patient naturally anticipates a surgical operation, be it even of a comparatively slight character, generally produces a degree of excitement, in consequence of which the bladder is often rendered too irritable to retain sufficient water for its proper distension during the operation, although on the occasion of former trials it was found perfectly competent to do so. Thirty drops of laudanum should therefore be given to the patient about an hour before the operation; and a suppository inserted into the rectum will also be found to produce a very favourable effect. Should, however, the irritability of the bladder be so great as not to be controlled by these means, it is better to postpone the operation until, by the employment of constitutional remedies, the patient can be brought into a more suitable condition.

Another difficulty, but of a mechanical character, sometimes arises in the use of the instrument termed the "scoop lithotrite," which is intended to bring away portions of detritus after the stone has been crushed. This instrument can sometimes only be withdrawn with considerable difficulty, in consequence of the accumulation of calcareous matter between its blades; and I have in one instance known it to be broken within the bladder in attempting to screw it up sufficiently close to admit of its passage through the urethra. I see, however, but little advantage in this forcible removal of the broken-down matter of the stone; for the detritus, when the portions are small enough to be brought away by the scoop, will also generally pass off with the urine; and, moreover, the most urgent symptoms which I have ever witnessed as the result of the operation of lithotrity have been in those cases in which the "scoop lithotrite" was employed to withdraw the detritus; for the danger seems to be in proportion to the stretching and laceration of the prostate gland and urethra, and not to the injury sustained by the bladder itself. Sometimes, however, it is impossible to avoid the use of this instrument, as in the following case:—

A few weeks ago I performed the operation of lithotomy on a patient, and found no difficulty in repeatedly seizing and completely crushing the stone. A very small quantity of detritus passed away, however, after the operation,—so little, indeed, as not by any means to correspond with the size of the stone; and I was therefore compelled to employ the scoop. This was followed by a profuse secretion of ropy mucus, which passed off readily with the urine. Observing one day, in the glass vessel in which the mucus was kept, a very considerable sediment, it occurred to me that a large portion of the detritus was held in suspension, and possibly partly in a state of solution. Upon this supposition, I desired the mucus to be preserved, and, having collected a sufficient quantity, I requested my friend Mr. Nicholson, of the Royal Chemical College, to make an analysis of it.

The following was the result of the experiment:—"The amount of mucus, after separation from the urine, and being perfectly washed and dried, weighed 62 grains. The amount of inorganic matter, after incineration, weighed 19·5 grains. This was found to consist principally of phosphate of lime, phosphate of magnesia, and a small quantity of carbonate of lime, which last was produced from the oxalate during the ignition." In pure mucus there is scarcely 2 per cent. of inorganic matter, while in this case there was very nearly 30 per cent. The circumstance of this large quantity of the constituents of a broken-down calculus being held in suspension by mucus is a most important feature in connection with the operation of lithotrity, as the surgeon will learn that, even where the detritus passes with difficulty in its coarser form, the impalpable particles are readily removed by this effort of Nature. It is worthy of remark in this case that no fragments of stone were contained in the mucus, nor have I since been able to detect any remaining in the bladder, although the strictest examination has been instituted. A question, however, still remains undecided—whether the detritus of any other species of calculus besides that of bone-earth is capable of being thus suspended in mucus. I trust the recital of this case will lead the attention of the profession to the subject, so as to excite further investigation.

A second case, very similar to the above, has occurred to me since that account was written. A gentleman, 35 years of age, from Nottinghamshire, was sent to me by Dr. Golding Bird for examination. I readily discovered a calculus in his bladder; and, after considering the circumstances of the case, proposed the operation of lithotrity. I performed the operation the third day after I first examined the patient, Dr. Golding Bird being present at the time. The stone was very easily seized; and, as the patient manifested no signs of irritability, I several times seized and crushed the fragments. After the operation, I gave him thirty drops of laudanum: he passed a quiet night; and on my visit next day, I was astonished to find that upwards of thirty grains of detritus had been already passed. By the end of the week he had passed 130 grains, and was so free from every symptom of stone, that I was almost led to believe that the whole of the calculus had been removed; and, upon sounding, I could not detect the presence of the smallest portion. Being aware, however, that the lithotrite would often detect that which may elude the sound, I injected four ounces of water into the bladder, and passed the smaller scoop lithotrite, when I immediately detected a portion of stone, which I seized and crushed, withdrawing the detritus between the blades of the instrument. The fragments thus removed weighed ten grains; and as the withdrawal of the lithotrite created some irritation, I relinquished all further examination for the time. Four days afterwards, in washing out the bladder, I again detected a portion of stone; passed a large lithotrite, and immediately seized a piece of stone about the size of a bean: this I easily crushed as before; and on that evening about fifteen grains of detritus passed. Since that time I have not been able to detect the presence of any portion of stone. All the symptoms have completely subsided, and the patient appears to be restored to perfect health.

Notwithstanding the freedom with which the detritus passed from this patient's bladder, I was surprised to find that a very large quantity of mucus was mixed with his urine, which, from the result of the examination of the mucus passed in the last case, I had not anticipated, believing that the secretion in the former instance had resulted from the detention of the detritus. I therefore sent this mucus to the College of Chemistry, as before, and, to my astonishment, found that the analysis shewed the existence of the same per centage of bone-earth as in the former case.

I refrain from offering any opinion upon these cases, as I am at the present time actively engaged in the further investigation of the subject, which appears to me to bear a most important relation to calculous disease.

It is a general belief that the greatest difficulty in the use of the lithotrite consists in seizing the stone with the blades of the instrument; but in my own experience—and I have operated in upwards of twenty cases—I have never met with this difficulty, and have, indeed, frequently been able, by the lithotrite, to discover and grasp a fragment of stone which had completely eluded detection by the sound.

Although there are, then, many difficulties that occasionally present themselves in the use of the lithotrite, in appropriate cases the operation is not only an easy one, but is often productive of such admirable results as to give lithotrity a claim to be considered one of the greatest inventions of modern surgery. In three or four of the cases I have had, one operation has been sufficient to effect a permanent cure; but the best instance was one sent to me by Mr. Parrot, of Clapham, in which the patient was suffering from the most urgent symptoms, and was completely cured at one "sitting." After the stone was crushed, a drachm of detritus passed away, and no symptom of stone has ever returned.

Although circumstances may arise that may render the operation of lithotrity unsafe, it does not necessarily follow that that of lithotomy should be performed; for, as I have already mentioned, it is the duty of the surgeon first fully to ascertain that the general health of the patient renders him fit to be submitted to such an ordeal. In the first place, I should say the state of the urine should be strictly investigated; and if it be found, by the application of heat or nitric acid, to contain a large quantity of albumen, free from the colouring principle of the blood, the patient must be considered totally unfit, at least at the time, to be exposed to the hazard of the operation. The state of the heart and lungs, of the abdominal viscera, and more especially of the liver, should each be the object of close investigation;—I say especially of the liver, on account of the liability of that organ to disease, and not unfrequently to a fatty degeneration, concomitant with which the vital powers are invariably much diminished, and the subject of the complaint rendered incapable of sustaining the reparative efforts of the constitution. Such cases are not, however, to be despaired of: medicinal means should be employed, change of air and scene recommended to the patient, and he will probably be restored to a condition in which he may be able to undergo the operation with reasonable prospect of a successful result. When none of these cogent reasons exist for delaying the operation of lithotomy, there is a previous preparation which the patient ought invariably to be submitted to, and for which no general plan can be laid down, as it must in every instance be regulated by the constitutional peculiarities of the individual. Thus, in plethoric habits, it may be necessary to have recourse to depletion, and both blood-letting and purging may be requisite; indeed, I have generally found them more efficacious when conjointly employed than when either has alone been resorted to; in cases of great obesity, it may also be necessary to reduce a patient before the operation can be safely performed: and my friend, Mr. Green, had, some years ago, a patient, from Manchester, who, when he first consulted him with stone in the bladder, weighed twenty-six stone: he was reduced, by strict dietetic discipline, to nineteen stone, and was then successfully subjected to the operation of lithotomy.

It is also highly desirable to prepare the mind of the patient, as well as his body, for what he has to undergo; and for this purpose it is proper to describe to him the position in which he will be placed during the operation,—for I have not unfrequently seen a patient, particularly in the better class of life, who had heroically made up his mind to submit to the operation, and walked firmly to the table, completely give way on learning the constrained position in which he was to be placed. It is also of great use to prevail on the patient, for a few days before the operation, to remain occasionally for five or ten minutes in the attitude of grasping the soles of his feet, in order to accustom the muscle to so unusual a position; and this not only diminishes the terror, but also the inconvenience, which would otherwise produce a great increase of excitement during the operation.

The night previous to the operation, a purgative should be administered, and in the morning an enema given, for the purpose of securing complete evacuation of the rectum. In persons of very irritable habits, it is also advisable, after the action caused by the enema has ceased, to inject about thirty drops of laudanum, in an ounce of gruel, into the bowel, with the view of lessening the muscular irritability of the parts, and also to produce a beneficial sedative effect after the operation has been performed. Let me here suggest, that the surgeon himself should be certain that all these preparations have been effected before the appointed period for the operation, so that when that time arrives the patient's mind may not be kept in agitation by unnecessary delay.

In lithotomy very various operations have been proposed, and, to a certain extent, adopted, at different periods, and a multitude of instruments of different kinds been employed; but I shall content myself with the description of what is termed the lateral operation, which is now almost invariably performed in this country, in consequence of its affording the most direct and safe passage into the bladder.

The high operation, nevertheless, demands some brief consideration, although in my opinion it ought never to be adopted, excepting where the prostate gland is so much enlarged, or the pelvis deformed, as to render the lateral operation inexpedient. Many surgeons contend, however, that a larger stone stone may be removed by opening the bladder above the pubes, than by the lateral section. I doubt the correctness of this view, and believe that such an opinion is generally founded upon the observation that the bladder can be opened with greater facility in the pubic region, in cases of distension from retained urine, but in cases of stone, as the bladder is thickened and contracted, deeply placed in the pelvis, and covered by peritoneum, it can only be opened with considerable difficulty, and it is almost impossible to remove a large stone from it without injury to its serous covering. I once saw the high operation performed by Sir Everard Home, and a most difficult and tedious operation it was: after he had cut down through the parietes of the abdomen above the pubes, he was obliged to make an opening in the perineum, and pass an instrument into the bladder from below, to enable him to open the bladder above the pubes. After much difficulty, a calculus was removed, but the patient died in consequence of this complicated operation a few hours after its completion.

A friend of mine a few years since was present at the performance of the high operation of lithotomy, by M. Civiale of Paris. In making the first incision through the parietes of the abdomen, he wounded the peritoneum, which led to the protrusion of the small intestines. He returned these into the abdomen, and continued his operation, and ultimately succeeded in extracting a stone: the patient was put to bed, and M. Civiale, on subsequent consideration, dreading the liability to extravasation of urine into the peritoneum, determined upon operating upon the bladder through the perineum. He effected this, and so completely succeeded in preventing the result he feared, that the patient ultimately recovered.

In this case, although I should remain as much as ever disposed to repudiate the propriety of the high operation, I cannot too much extol the acumen shewn by the above eminent surgeon, in the means which he adopted to obviate the danger caused by his mishap in the commencement of the operation.

As to the instruments to be employed in lithotomy, there are but few that are not applicable if directed by the hand of an anatomist and surgeon; although, after considerable experience, I must, in justice to Mr. Key, express my preference to the straight staff, but it must be in the hands of those who can appreciate its value, and who know how to avail themselves of the advantages it affords. The operation of lithotomy should never be undertaken without maturely considering every separate step necessary to its completion, and not at once looking forward merely to the ultimate object, the extraction of the stone. Nor in contemplating each step should the facilities alone be considered; but every difficulty which can possibly occur, dwelt on, and the means of obviating it anticipated: indeed, as much, or perhaps more, depends upon the discipline of the operator's mind than upon the mere dexterity of his hand; for it can hardly happen that the manipulation should be dexterous when the instruments are not directed by judgment and coolness in the operator.

Original Communications.

CHILD-CROWING, OR SPASM OF THE GLOTTIS.

ON CHANGE OF AIR AS A REMEDY.

By John Roberton,
Formerly Senior-Surgeon in Ordinary to the Manchester Lying-in Hospital.

In Dr. West's Lecture on the above disease, published in one of the numbers of the London Medical Gazette for February—a discourse which contains a very full and accurate account of the symptoms—I noticed that while admitting in general terms the benefit of pure air in the treatment, he warns his readers against the danger of a free exposure to the atmosphere: so strongly, indeed, does he express himself, that the chances are, many will be deterred, under any circumstances, from giving change of air even so much as a cautious trial. His words are, "although the benefit that accrues from fresh air is often very great, yet it is very important that the child should not be exposed to the cold or wind, for I have seen such exposure followed by a severe attack of dyspnœa, or by the occurrence of general convulsions. The hazard of such an occurrence is greater in proportion to the severity and long continuance of the affection."*

To the same effect is the following from Dr. Marshall Hall:—"The next object is to guard the little patient from the external atmosphere, when the north-east winds prevail, or the air is cold or damp; the patient's bed should be surrounded, at intervals of about one foot, by three distinct curtains, or tents of gauze, or of net; the air of the room should be protected from partial currents, be well supplied with hygrometric moisture, and be maintained at the temperature of 65° Fahr."†

Having had opportunity in the course of practice to treat a number of cases of this always alarming, and somewhat fatal malady, I was led, by the little benefit derived from medicines, to venture on the employment of free exposure to a cool, dry atmosphere, as one of my principal means, more especially in aggravated forms; and, although I cannot affirm its invariable success, in no instance has it proved injurious. It will be seen from the cases I have given, that the success of this method has been very considerable,—in a large proportion of instances, decisive. Of course the exposure has been had recourse to *with due caution*—a condition necessary, however, in the employment of every kind of remedy possessed of power.

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* Feb. 11, 1848.

† Lancet, June, 1847.

In the year 1834, a fatal case of spasm of the glottis occurred in my own family: this happened when the late learned Dr. Ley was putting forth a series of papers on the same disease, named by him Laryngismus Stridulus. The circumstance induced me to publish that, and two other cases, in the 13th volume of the LONDON MEDICAL GAZETTE, with the view of expressing my dissent from his pathological theory—viz. that the spasm is from pressure on the par vagum, or its recurrent branch, produced by the glands in the tract of those nerves becoming enlarged. At that period I had not made trial of change of air, but I soon found occasion to do so, and the results now to be given are, I hope, sufficiently important to warrant me laying them before the profession.

The symptoms of spasm of the glottis, as they have occurred in my own experience, are chiefly the following:—I enumerate them in the outset, because, as it is not my object to give a full description of the disease, this may hold me excused from very minute details in the narration of my cases. The particulars that are essential I will take care to supply, and avoid only what for my purpose is superfluous.

The complaint may occur at any stage of dentition. Earlier or later than the time of teething, no instance has come under my notice. At the commencement, the nurse will sometimes remark that the infant stiffens for a moment or two in her arms, as if suddenly alarmed, there being at the same time a catch in the breathing. This slight kind of spasm will recur occasionally for weeks, and be attributed to wind on the stomach. By and by, on the babe's awaking, or being crossed, there is heard a shrill, prolonged inspiration, and rapid expiration, repeated three or four times, with increase of the stiffness of the body and limbs. The head is thrown back; the eyes are turned upwards; the countenance is flushed, and the look indicates alarm or terror; relief arriving only when the infant is able freely to cry. This latter is noticed in the early stage of the disease. Afterwards, when the child is more accustomed to the attacks, the crying, as one of the symptoms, will often altogether cease. After a while, the spasm may occur once, twice, or oftener, in an hour; but, in regard to this, there is no rule, for I have known it to come on once only in a day or two, and in other instances, every few minutes, day and night. According to my observation, the spasm occurs as frequently in the night as in the day, and strong infants will raise themselves in the bed in a sitting posture, through the urgency of the attack, grasping at the nurse as if for protection and help.

I have been referring to the complaint in its mildest form. Soon, especially supposing it to have commenced early in the period of dentition, the symptoms become aggravated, the struggle before the crowing or stridulous sound is more violent, accompanied with blueness about the mouth and eyes, in some cases,—in others with universal lividity of the face and neck, and swelling of the veins of the forehead; the look, and attitude of the head, trunk, and limbs, being what we may suppose they would be were strangulation taking place as the effect of slow moderate violence. The attacks vary in different children. In some the spasm is brief, but so frequent, that the countenance is habitually blue; while in other infants, commonly the robust, the spasm is so prolonged, and so severe, as to fill the bystanders with consternation. I remember a hale grandmother, herself the mother of many children, who, on being told that her son's infant was suffering from spasm of the glottis, declared that this disease (of which she had never heard before) must be a fancy of her daughter-in-law's. But, when, on coming, she witnessed an attack, she was more terrified than any one of the bystanders. And a feeling of alarm, there can be no doubt, is the usual effect on those who for the first time witness a paroxysm of the disease.

In addition to the mere spasm and its effects, as now described, there are symptoms not present in all, but in, perhaps, a majority of cases, that justly excite a still more lively alarm. During a fit of crowing, the nurse will remark the drawing of the thumbs into the palms of the hands, and of the toes towards the soles. These are symptoms observed in many who ultimately recover. When, however, the thumbs are habitually retained in the palms, the toes being at the same time spasmodically curved, experience has shown the danger to be imminent. In some infants, the hands also are bent strongly on the fore-arm.

In degrees yet more aggravated, the blueness and lividity of the face is constant, which is owing to the spasm of the glottis recurring, perhaps every five minutes. In a case which terminated favourably, I was assured by the intelligent mother, that the spasms were not absent more than ten minutes, day and night, for eight months.

In other instances, not rare, there are convulsions, mixed up, accidentally, it would seem, with the spasms of the glottis. On the other hand, I have in several noticed the crowing (not in every attack, but now and then) terminate in a distinct convulsion.

The look of an infant subject to spasm of the glottis, will commonly indicate to an experienced eye the presence of this disease. A majority of those affected are rather large and vigorous: they have a lively, excited, irritable manner, are never still in their nurse's arms, and are alternately laughing and fretting. The cheeks are tipped with red, and the eyes are bright and restless, but not clear and placid, as in health. Occasionally the scalp and forehead are sprinkled with small scabs, and the sanguiferous circulation, in a large proportion, is brisker and stronger than natural.

The following case, which I had occasion to watch in the course of last spring, exemplifies the course and treatment of the disease, in a decided though mild form:—

I. March 3rd, 1848.—Master S., aged 11 months, a bright-eyed, powerful boy, just weaned. Has cut only the two lower central incisor teeth: the upper are near, and the gums inflamed. For about three months the nurse has noticed chokings coming on suddenly, when he throws his head back, raises his hands, and makes a strangling noise, attended with flushing of the face and staring of the eyes. This passes off directly. The alvine evacuations are dark. Last night nurse noticed, while in bed, that he sprung up, struggling, as a spasm came on.

5th.—Increase of the choking fits, which have occurred repeatedly in the night. Has a running at the nose, and cough.

6th.—Asleep when I entered the nursery. While I was talking with the nurse, awoke in a spasm. There was a long shrill inspiration, a quick expiration, and then a prolonged inspiration, as if the air found entrance with difficulty through a narrow chink. Meantime, the hands are outstretched, the limbs rigid, the head is thrown back, the face deeply flushed, and the eyes are staring, as though the babe were in terror. In a few seconds the spasms relaxed, so as to admit of free crying. Nurse says, that when in bed, on the accession of an attack, he usually raises himself, and lays hold of her. The spasm gone, he smiled, and was merry, as though nothing had happened. The motions, hitherto dark, are to-day more yellow. Catarrh nearly gone.

8th.—Yesterday and to-day, spasms more frequent and severe. Nurse says that there remains after each, blueness round the mouth and eyes: counted seven attacks in the course of last night. One to-day, on awaking, as he lay in his cradle, was uncommonly severe; the face remaining very dark until he was able to cry; motions offensive and whitish. A grain of Hyd. c. Cretâ, with the same quantity of rhubarb, nightly. One incisor out (the right upper central), the other not. Is to be carried to the shore at Lytham in a few days.

10th.—Spasms severe and rather frequent, with blueness about the mouth and eyes. Motions still too pale; continue powders. Off to Lytham to-morrow.

25th.—Saw his mother to-day, on her return from Lytham, where she has left him with the nurse. Says that on the journey thither, he had five or six attacks of crowing, but that, after their arrival, had no return during the first five days. Is carried out on the shore constantly, and is improved in health. The first attack at Lytham came on thus:—The nurse had him out on the shore for a long time, notwithstanding that the wind was high. He was brought home asleep and chilled, and, after awaking, had a slight attack of crowing. The two lateral incisor upper teeth are still within the gum. Is not free from attacks, but they are infrequent, and so slight as not to attract much notice.

April 12th.—Returned from Lytham a week ago free from spasms, and continued well till yesterday, when again there were attacks. Has had several to-day, and is irritable and restless. Weather very damp; lateral incisor upper teeth, near; gums inflamed, are scarified.

21st.—Off to Bowdon; still suffering from incisor teeth. Attacks of spasms, but they are comparatively mild.

Remained at Bowdon three weeks, during which the spasms disappeared. At the present date (Nov. 12th), though occasionally suffering from the teeth, has never had a return.

The *insidious* nature of the malady is shown in the three following fatal cases:—

II. A. C. 1847.—A small, lively female, of seven months, suffering from the early incisor teeth. The spasms had been noticed for about six weeks, but were not frequent, nor so severe as to excite alarm, till within a fortnight of the child's death, at which period the thumbs were observed to rest in the palms, and the toes to be drawn downwards. Five days before the fatal event, had a brief convulsion. The cheeks being flushed, and the head hot, a leech was applied to the forehead, spirit wash to the scalp, and Hyd. c. Cretâ prescribed for the bowels. The day before death (March 20th) the spasms were frequent, and in the night had recurred, the mother assured me, every few minutes. Next day (Sunday) she was much better, and so lively that the mother thought herself at liberty to go to church. At noon, however, the crowing attacks were again frequent and severe.

At 4 P.M., the child being in the kitchen, a servant, trying to amuse her, made her laugh, which instantly produced a spasm, with suspension of the breathing. Before the mother could be brought from the parlour, the infant was dead.

Little apprehending immediate danger, I had not paid her a visit for a couple of days; and, owing to the stormy, unsettled state of the weather, I had refrained from advising change of air,—an omission I could now, when too late, only regret.

III. J. H., March 11th, 1848, (seen accidentally when attending a lady boarded with the infant's family).—A well-formed male, aged 9 months; has no teeth, but is suffering from the lower central incisors, which, at the mother's request, I set free by the scarificator. She informed me that the infant, between three and four months previously, was noticed when screaming to become rigid, particularly in one leg. Soon after had attacks of crowing, which were frequent in the day, and seldomer in the night, with blueness round the mouth. Likewise had several distinct convulsions; and it was now remarked that the spasm would end in a convulsion. The thumbs were much drawn into the palms, and the toes curved, during the crowing attacks.

Eight weeks ago was taken, by the advice of his medical attendant, to the neighbourhood of Chester, where, in the first couple of weeks, the spasms declined, and the health improved. Subsequently, before his return home, the crowing was again severe and frequent, and the mother remarked that the thumbs were now scarcely ever out of the palms. Since his return, a fortnight ago, the spasms have been less severe and less frequent.

Although, as I have said, accidentally attending an adult member of the family, and not on the infant, I was led by the restless look of the sufferer to ask if he were subject to crowing, when I received the foregoing history:—He was in good condition of body, but there was the same lively, unhappy look, I had so often remarked in infants affected with this disease.

April 7th.—Had again to visit the family. On ringing, the door was hurriedly opened by the mother of the child, who said, "Baby is just coming out of one of his crowing fits." On entering, the child lay on the sofa, and was already dead. I thought I discovered a slight quivering of the under lip, and lifted him, but life was extinct. Two minutes previously, in the mother's arms, he had been amusing himself with looking in a mirror which stood on the chimney-piece. She had seated herself, and was in the act of giving a teaspoonful of milk and water, when a spasm occurred, with general rigidity and darkness of the face and hands, and the result I have stated. I learned that the child had remained, from the time of my former visit, on the 11th March, till two days ago, nearly free from spasms; but that during the two days there had been one severe convulsion, and a number of attacks of crowing, with rigidity of the limbs. A short time before the fatal seizure, while sleeping, was noticed to sigh, and roll the eye-balls upwards. A post-mortem inspection could not be obtained.

IV. The following was under the care of my friend Mr. Williamson, surgeon. On his happening to mention the case to me, I recommended change of air. I give the history in his own words:—

"W. J. D., aged 11 months, an active, healthy, and intelligent male child. Was first attacked about the 1st of January, 1847, with spasm of the glottis. I was consulted on the 3rd, and found the child just recovering from a spasm. There was still remaining some lividity of the skin, and spasmodic action of the flexors of the hands and feet; the thumb especially being drawn into the palms of the hands: the bowels were irregular, but not much so; the gums being hard and tense, were freely lanced.

"The child continued to have similar attacks—sometimes two or three occurring daily: at others, there were intervals of several days between them. I witnessed some of these attacks, and found them accompanied by the ordinary symptoms of spasm of the glottis; the suddenness of the seizure, the protracted spasm, especially affecting the flexor muscles, the position of the thumb, the purple lividity of the skin, and the crowing inspiration following the attacks, leaving no room for doubt as to its nature. In the latter stage of the disease, the bowels became more irregular, being sometimes confined, sometimes relaxed, and the motions fœtid and curdy.

"On the 4th of February, I sent the child into the country (Bowdon), where it remained three weeks, during which period it had no recurrence of the spasms, though they had continued to be more or less frequent up to the time of its departure from Manchester. It continued equally free for some days after its return, which was much sooner than I could have wished. During this latter period, the infant had cut another tooth.

"On the 5th of March, it had an attack, and died in an instant. During the early part of this day, as for some time previously, it had been remarkably well; and a little before the fatal spasm, it had been indulging in almost convulsive fits of laughter and merriment—a tendency that had unfortunately been encouraged by its parents in their natural delight at witnessing such indications of returning health. It appears probable that this was the cause of the spasm by which the child was carried off."

V. March, 1834.—T. H., a male; head large; limbs soft and slender. Had no teeth at seven months, at which period crowing came on, and continued, but without causing alarm, till he was 11 months old. At this age (there were still no teeth) spasms gradually became so frequent as at length to recur many times in an hour, day and night. The countenance was livid, almost of an indigo tint, and there seemed to be imminent danger, for he had, in addition, occasional distinct convulsions, and the thumbs were mostly in the palms of the hands. In consequence, it was resolved to send him into the country, to Barton, about six miles from Manchester. As they were carrying the infant out of the house to the coach, his mother, I remember, cried, "he will die in the carriage, he will never live through the journey." In the course of three days, during which he was carried much about in the open air, the attacks gradually diminished both in frequency and severity, and at the end of three weeks they were gone. He was brought home, but before long the spasms returned, though more mildly. He therefore was sent back to his old quarters, when they entirely and finally disappeared, and that before he had cut any of his teeth.

VI. 1835.—A. F., a pale, flabby female infant, 11 months old, which had lost its mother. I possess no note of the state of the gums. Crowing and prolonged attacks of spasm of the glottis occurred every few minutes. It was winter—the ground covered with snow—the air dry and cold: nevertheless, change was advised, but the babe was regarded by the aunt who had charge of her as in so hopeless a state, that for a time the advice was not acted upon. The mother of the child of Case V. happening to call, told what she had experienced in her family, and joined in advising change of air. The infant was accordingly taken to a lodging, beyond Cheetham Hill, in an airy situation, and there was carried about day by day, in a field covered with snow. The spasms speedily mitigated, and in a fortnight had disappeared. The child recovered.

VII. Feb. 6th, 1837.—P. B., a healthy male, aged 15 months. The parents in the morning went from home, leaving him in the care of a thoughtless nurse, who, before they were well out of the house, stuffed her charge with plum-cake. About midday I found him in a convulsion. Injections into the bowels of tepid water had the effect of bringing off a quantity of currants, and there was no return of the convulsion; but in the course of a few days I was summoned to witness attacks of spasm of the glottis, which soon increased, and, he being an only son, created in his parents the utmost alarm. The spasms returned after short intervals, with clenching of the thumbs, drawing of the toes, and a degree of lividity of the countenance such as I had never before seen in any instance. Although the general health had seemingly not suffered much, by the 23rd of April—that is, about eleven weeks after the first attack—the spasms were almost incessant; and his residence being on a flat humid soil, it was determined to send him to an airy, elevated situation, near Cheetham Hill. There, under the care of a monthly nurse, long known in this neighbourhood for her superior intelligence, the following course was pursued for several weeks:—The child was carried daily, in the forenoon, outside one of the Cheetham Hill omnibuses to the entrance of Manchester, whence the nurse returned with him in her arms to their lodgings. In the afternoon of each day, an open cab carried her and the infant for an hour or more to Kersal Moor. Sponging of the body with cold water was meantime regularly pracised; also strict attention to diet, and the avoidance of whatever might irritate the temper. At my visits, the nurse would commonly conclude by saying, "he will die, notwithstanding." The indigo hue of the complexion was remarkable, and a tendency to doze was pretty constant, yet not so as to prevent him exhibiting considerable irritability of temper. Improved in all respects, he was taken from Cheetham Hill to Ratcliffe, where, owing to the distance from town, I no longer saw him, but after a few weeks he was brought home well: had no return of spasms, and, at the present date, is a fine active school-boy.

VIII. December, 1838.—Jessy, a small, but vigorous child, was 15 months old before she cut a tooth; and the first eight were not cut till she was twenty months. The late eminent Dr. Holme shared with me the anxiety of the attendance, which, owing to the severity of the convulsions and spasms, and the distressed feelings of the parents, was more than usually harassing. Her father drew up for me the following brief but clear account of the case:—

"She was about twelve months old when the first convulsion fit occurred. You had been attending her for an apparent derangement of the digestive organs, but had discontinued your visits for a week previously, and on the day when the first took place she appeared to be tolerably well. We do not remember the period when spasms succeeded the convulsions, but think they commenced a few weeks after the first convulsion fit. The spasms frequently terminated in a convulsion.

"The approach of a convulsion was generally indicated by a clenching, or rather contraction, of the thumbs and toes: indeed, these symptoms often occurred, when she appeared otherwise tolerably well, but they always proved the forerunner of a convulsion. When the spasms were frequent and violent, the face was livid and dark.

"By your advice, we went in January, about six weeks after the first convulsion, to Swinton, (four miles from Manchester: in situation, elevated like Kersal Moor) and remained a fortnight. If she derived benefit from this visit, it was only temporary. In

February, we went thither again, and remained about a month, without deriving benefit from the change. On the contrary, at this period the spasms became more frequent, and she had one or two convulsions of a more violent nature than before. You then recommended us to go to the sea coast, Swinton not affording the requisite change of air. We went to Bootle, below Liverpool, and remained a fortnight. On the first day after our arrival, she had one slight convulsion, and on the next morning a second, which was the last she ever had. The *spasms* did not cease so suddenly, but gradually disappeared, and, as you know, she has been a remarkably healthy child ever since."

It may be remarked, that during the whole period in which the convulsions lasted (these were in all about twenty), her bowels were out of order, and the evacuations of an unnatural colour. Improvement took place in these respects *simultaneously* with the cessation of the convulsions.

He subsequently informed me that the child was carried out on the sandy shore at Bootle, from early till late, and that, for this purpose, a man was hired to assist the regular nurse.

IX. Arthur, 1841, a healthy male child. The mother supplies the following account:—"A. was 12 months old, and had 12 teeth, when first subject to slight attacks of spasm. We noticed them only on his awaking from sleep. A few weeks later he had them more frequently and violently. They were occasioned by laughing, crying, any excitement, or by drinking; often without any apparent cause. By your advice he was taken to Kersal Moor early in March, being then 14 months old. The weather was stormy and cold, and he was carried on the bleakest part of the moor, three times a day, wrapped in a woollen shawl, and frequently was brought in covered with sleet. He derived considerable benefit from his fortnight's residence on the moor, but relapsed soon after returning home. We then took him into Yorkshire, where he had plenty of fresh air, bleak drives in an open phaeton, &c. On our return home in May he had cut his eye teeth, and was perfectly recovered.

"During the whole time of his suffering from the spasms, his diet was very spare: he was allowed only rusks boiled in water. Two circumstances I had forgotten to mention: Arthur required no medicine, and, notwithstanding all his exposure to the air, took no cold."

X. Maria, March 1843, a plump healthy infant, 9 months old, just weaned. The upper central incisor teeth cut, but not the lower. "I do not," says her mother, "exactly remember the first symptoms that attracted notice, but whenever she laughed or cried she nearly lost her breath with crowing. I do not remember that the thumbs were drawn into the palms of the hands, but she was so black in the countenance when the crowing came on, that we had repeatedly to beat her on the back to recover her." These symptoms, accompanied with derangement of the bowels, had continued two months, when I advised change of air: this was in May. The infant was taken to Chester. The mother reports that she never had an attack after leaving Manchester.

XI. Nov. 1843, C. H., very large head; pale yellow hair; slender muscles; timid; sensitive. When 13 months old, and with only four teeth, had a convulsion, followed by severe and frequent attacks of crowing, excited by any, and often without obvious cause. In a few weeks, the complaint growing alarming, he was sent with his nurse to a lodging on Kersal Moor, a bleak, elevated common, about two miles from Manchester. Although the weather was severe, he was carried about the moor during most of the day: he was abroad *many hours* daily. In the course of three or four weeks the symptoms were mitigated; but it was thought advisable to take him thence to the sea shore at Blackpool, where he remained several weeks. After this change the spasms ceased, and never afterwards returned.

XII. Ada, 1844, a stout female, hand-fed from about the fourth month, at which period spasms were first noticed, and by the 7th month they had become very frequent, occurring perhaps every ten minutes in the day, and little less seldom in the night. The health appeared good, and the child was exceedingly lively. The aspect, however, with blueness about the mouth, just before the spasm terminated in crying, was extremely alarming, and seemed to forebode a fatal termination. The crowing noise might be heard distinctly all over the house. In March 1845, she was sent (now eight months old) to Bowdon, where she remained a week, and was carried about in the air from morning till night, but seemingly with no benefit. At the end of this time her mother brought her home, and so severe were several of the spasms in the coach by the way, that she thought the infant would have expired. From the time of reaching home there never was another spasm, although the first teeth did not appear till the age of eleven months. She had never a convulsion; but there was clenching of the thumbs into the palms throughout the illness.

XIII. E. F., a lively, blue-eyed female, aged 10 months, Feb. 7, 1846. On awaking was seized with spasmodic crowing, as though she were suffocating. The symptoms I found were those of spasm of the glottis, and that she was suffering from inflammation of the gums over one or more of the bicuspid teeth. As the spasms continued, notwithstanding all that was done for her relief, I advised change of air, and in a few days she was taken to Alderly Edge, a dry inland region in Cheshire, twelve miles from Manchester, whence, however, she was brought home, at the end of a week, feverish, suffering much from her teeth, and the spasms unabated. After a short interval she was carried to Bowdon, and there remained several weeks, the health improving, and the spasms becoming greatly mitigated. At the end of two months from this time, when at home, the spasms ceased, and never again returned. There was no drawing of the thumbs or any convulsions, only blueness about the mouth, and flushing of the face, with lively terror on the accession of the spasm. This was a very precocious child. She died from hydrocephalus, in cutting her last double teeth, when between two and three years of age.

XIV. M. M., March 1846, aged 8 months, a healthy female, in course of cutting the incisor teeth. Had two alarming attacks of spasm. On my representing to the mother that change of air might be requisite, she hurried off the following day to her paternal home at Skipton, in the North Riding of Yorkshire. As the month was April, and the situation bleak, the change was a very decided one, from a humid and mild to a cold atmosphere. There she remained a month, and subsequently had no return of the spasm.

XV. April 2nd, 1846. Master D., 17 months old (home in Cheshire), a powerful, massive, lively boy, teazed with the eye teeth. I found him flushed, irritable, restless, suffering from spasms, on account of which, indeed, I had prescribed for him in Manchester a couple of months before. His nurse said to me, aside from the mother, "I am afraid he will go off in them. There was not an hour last night in which he had not several." I advised change of air, naming Alderly Edge. The history of the case from first to last will be best given in the words of the mother. "The first attack of spasms came on in February, I think about the middle of the month, and yielded in the course of a very few days to the change to Arden, in Cheshire, the child never having anything like a serious attack after he arrived there, and taking no medicines, but being drawn out in an open carriage twice daily. He was quite free from spasm from a few days after his arrival at Arden, till towards the end of March, when the whole household were attacked with influenza, Johnnie amongst the rest; and his chest was so much affected, that the drives were given up, and the child kept warm. Then it was that the second attack of crowing inspiration came on, and rapidly assumed such a serious character, that I believe on the third or fourth day after he was seized we sent to ask you to come over, and by your advice took him on the following day to Alderly, which was the 3rd of April. Here I may remark that he never had any convulsion with the spasms. The thumbs were not drawn up into the palms of the hands, nor was there a considerable degree of blueness round the mouth and nose during the spasms, one not altogether leaving him before another would come on. It was a biting, cold, wet day when we set off for Alderly. The child slept all the way thither, awoke without a spasm, and never had another from that day to this. Our abode at Alderly was about a week."

XVI. April 25th, 1846. M. B., aged 8 months, a healthy male, of average strength, with bright red hair, a pale skin, and an excitable temperament, suffering from inflamed gums over the first incisors. The mother and nurse had taken alarm at frequent attacks of crowing, the cause of which they could not understand. I drew from the nurse that such attacks had existed for a number of weeks, and that she had considered them to arise from wind on the stomach. Whilst I was in the nursery he had an attack of crowing, with lividity of the countenance, but there was no clenching of the thumbs. Motions pale and irregular. When this state of bowels had been corrected, I directed a removal to Alderly Edge. Instead of Alderly, he was carried to Newton, a flat and humid situation midway between Manchester and Liverpool. No improvement followed. In about ten days I went early one morning, and found him on the balcony of the hotel, in the nurse's arms. I was struck with the bluenessof the countenance: during the quarter of an hour that I remained on the balcony, he had several attacks of crowing, with darkness of the countenance to such a degree that I feared he might die in my presence. I now represented the necessity of a drier, cooler, and more bracing air. On the third or fourth day he was taken to Fleetwood, on the sea coast, and there carried about on the beach. At the end of a week they removed to the bleak shore of Blackpool, where he was three weeks. I was informed by the nurse on her return that he had been daily on the shore from early till late; that the spasms were mitigated at Fleetwood *ere* the end of the second day; and that, before leaving Blackpool, they had ceased. Afterwards, although he suffered at times from the gums, the crowing never returned. He had never a convulsion, and the clenching of the thumbs was only observed during the crowing; but being of a very light complexion, the indigo hue of the face was at times frightful.

XVII. The following is copied from the brief narrative of the child's father: though little affected in health, the spasms were alarmingly severe. "In March 1847, my son Alexander, aged 11 months, a stout and healthy child, in course of teething, was seized with violent spasms, which attacked him suddenly, taking away his breath, his whole body becoming rigid, the thumb clasped tightly in the hand, and under the eyes and round the mouth and nose was quite black. He sometimes had three of these attacks in a day, and they almost always occurred when in the nursery, a rather close and confined apartment. By your particular recommendation he was freely exposed to the air, and, in accordance therewith, was frequently taken on the outside of a coach some miles and back; and though the weather at the time was severe, he caught no cold, but enjoyed the rides very much. He had only one very slight attack during the time he was having his outs (*i. e.* when in the air), and in two months after his first drive the spasms had entirely disappeared, and he has not since had any relapse."

XVIII. March 1847. A. W., a male, aged 8 months: spasms, with clenching of thumbs, had existed for several weeks, when one day, on being summoned, I found him in a strong convulsion; gums over incisor teeth full and inflamed. Had a convulsion on each of the two days following. The infant being vigorous, two leeches were applied to the forehead, and the gums freely scarified. In two more days his mother and nurse went with him to Bowdon. Here, as she informed me, they breakfasted early, that no portion of the day might be lost, and carried him constantly in the air. Only one severe attack of crowing was remarked after going thither. In a fortnight he was brought home quite well, and twelve teeth were afterwards cut without a return of the spasm.

In February of the present year 1848, when 19 months old, in cutting his eye teeth, he had again the spasmodic crowing, attended with rigidity of the fingers and thumbs. The gums were scarified, and the deranged state of the bowels corrected. About a week subsequently, while seated on his mother's knee, he struck his head against the corner of the table, and instantly, in the attempt to cry, was seized with so alarming an attack of crowing, attended with rigidity of the whole body, the hands being contracted, and the head forcibly drawn backwards, that his mother for an instant thought him dead. Soon afterwards, on March 8th, there is this entry—"The eye teeth are all protruded, and there has now been no crowing for several days." The child ever since has enjoyed excellent health.

XIX. A. L., 1847, a delicate but lively boy, wet-nursed. At the age of 7 months had one tooth, and was cutting more when spasms and crowing were noticed for the first time. In the beginning of April, a month subsequently, took a convulsion while in the nurse's arms in the street, and had four or five more on the following days, with frequent attacks of crowing between. After the convulsions ceased, the spasms continued to be frequent and alarming: in consequence he was carried about in the outskirts of Chorlton upon Medlock, almost from morning until night, but with no advantage. He then, notwithstanding that the weather was cold, was removed to Bowdon, where in the course of two days the spasms entirely ceased, and before the end of May he is reported as quite recovered.

XX. March 10th, 1847. A. B., a vigorous female, aged 20 months (a patient of my friend Mr. Wilson's, which I had to see for him on different occasions when he happened to be out of town). Found the infant irritable and merry, almost to boisterousness. On entering the nursery her mother said, "Don't look grave when you speak to her, or you will bring on a spasm." She was suffering from the eye teeth, and the spasms were alarmingly severe and frequent. I advised an immediate trial of the mild sea air of Lytham. The following notes from the mother's pen will here properly find place:—"The first teeth were cut in the first year, with upwards of a dozen convulsions and slight spasms of the windpipe. The following four double teeth were cut with most alarming spasms, slight ones returning at intervals of ten minutes throughout night and day. This state lasted eight months: during that time the bodily health was not, generally, affected, but great nervous irritation existed. The number of alarming, almost tetanic convulsions, amounted to 16 (as far as can be remembered with certainty); lancing the gums afforded temporary relief, but change of air at once soothed the nervous system, and worked a gradual and permanent cure. The four eye teeth were cut without a moment's illness, in the course of a fortnight, while the child was travelling about in the open air eight hours daily."

Mr. Wilson, in addition, informs me that the child remained thirteen weeks at Lytham; and the travelling about eight hours daily, during the cutting of the eye teeth, referred to in the above narrative, was a tour among the Westmoreland lakes. He further says that clenching of the thumbs, and drawing of the toes, accompanied the spasms, and that slight lividity of the countenance remained even, during sleep: moreover, what is most important, that after the removal to Lytham on the 11th of March, the infant never had but two slight spasms.

XXI. A. L., 1847, a vigorous female, aged 7 months, brought for advice from Congleton, in Cheshire. Five weeks ago was noticed, during a fit of temper, to crow. Soon after, the mother's health obliged her to wean, and though the infant did not apparently suffer from the change, the crowing became frequent, and there were also several distinct convulsions. The uncle of the child, a surgeon, wrote me as follows:—"The least possible irritation, either crying or laughing, produces an attack of crowing, the breath being stopped, and the infant's face almost black." A wet nurse was now procured, but so alarmed were the parents, that a physician and two surgeons were in constant attendance. On the 24th of April, the same relative writes—"Yesterday it had a convulsion, and many crowing attacks; every attack of crowing you would have thought might destroy it: as yet there are no teeth." I requested that the child might be brought to Manchester, which it was accordingly on the 17th of May. During the brief space it remained with me, about a quarter of an hour, it had two or three attacks, with darkness of countenance, and such alarming strangulation, that I urgently requested the mother would lose no time in carrying the infant to Blackpool, recommending, at the same time, Rhubarb and Mercury with Chalk, to regulate the bowels. The effect of this change of air the uncle reports in these words:—"My brother's infant never had an attack of spasm of the glottis after their arrival at Blackpool. The very day, or day but one, before they went, while they had the child in my house, it as nearly as possible died during an attack of crowing. They remained at Blackpool five or six weeks, where it was carried out on the shore every hour of every day. On its returning from Blackpool, it had quite recovered, and never had another attack."

In reference to these twenty-one cases, the first thing to be noticed is the period of the year at which the crowing commenced—namely, from November to April. Now, as the patients were all of a rank above the labouring class,—had nurses and nurseries,—they would probably be more within doors, be more secluded from the external atmosphere,—in a word, would spend a more artificial life, than they do in the warmer season. Such infants, assuredly, are habituated to a very different mode of living, when compared with those in a lower station, who are to be seen abroad almost in all kinds of weather, daily, throughout the year. I would not be understood as maintaining that this nursery seclusion explains why the complaint so commonly occurs in winter and spring; but the fact that it is rare in the families of the working classes, seems in favour of such a conclusion.

The age at the accession of the disease was in most from about the 5th to the 12th month. Above 12 months there were only three cases, and the highest of these is 15 months.

In connection with the ages of the infants, is the *kind* of teeth the irritation from which may be regarded as perhaps the chief cause of the disease. In seventeen the irritating teeth were the incisor; in three the bicuspid; and in one the canine.

With reference to the influence of sex in predisposing to child-crowing, this probably is little if anything. The proportions in the foregoing instances are nine females to twelve males. It is otherwise, however, seemingly with the mortality; for in eight cases of death which have come under my notice during the last twenty-three years —the first happened in 1825—two only were females.

Concerning the treatment, I have little to add to what may be gathered from the history of the cases. My remedies are few and simple. In all the infants there was derangement of the first passages; the digestive power was more or less impaired, and the motions were pale or otherwise discoloured, and of a fœtid odour. To correct this I have given Rhubarb and Mercury, with Chalk, in small doses, and an occasional teaspoonful of castor oil. Leeches to the head I have rarely advised, unless when the complaint was complicated with convulsions; and even then only when there were drowsiness and heat of scalp. The diet I have regulated with strictness, and am of opinion that a spare diet is of incomparably more importance than any articles of medicine.

Change of air (and I must be understood to mean change to a cool, bracing atmosphere) does good by soothing the nervous irritability, lessening the activity of the circulation, and producing sleep; while at the same time it invigorates the powers of digestion. The account of its effects in the treatment of Case XX. to be found in the note of the child's mother, expresses, and with much precision, nearly all that need be said on the subject. The change of air acts beneficially much in the same manner as it does in hooping-cough, only it is more generally applicable in child-crowing, is attended with less risk, and is more speedily and certainly efficacious.

The plentiful use of cold water in the form of sponging, was rarely omitted night and morning. In the treatment of the severe and alarming Case VII. in particular, this was found of service, added to atmospheric exposure, as a means of allaying a remarkable degree of irritability.

Inflamed gums were scarified, and the operation repeated on a return of pain and heat, perhaps every second or third day. A sabre-pointed, rather blunt penknife, was the instrument preferred. In order to its safe performance, there is a precaution worth mentioning: though a trifle, it is not to be altogether despised. An infant under the disease is irritable, apt to cry vehemently, and so to bring on a spasm. There would seem to be an unnatural accumulation of irritability, which, when the child is suddenly provoked, is nearly certain to bring on crowing. Let the operator proceed at once to pull back the head, and deliberately scarify the gum, and the almost certain consequence will be either a fit of spasm or a convulsion. In Case V. I had nearly caused a fatal spasm by scarifying the gums, without first making the child *slowly* expend its irritability in free crying. The precaution referred to consists in gently drawing back the head, and that is sure to produce crying; then letting alone for a *little*, and again repeating the feint, until there has been free sonorous crying. Now, the excess of irritability being expended, scarification can be safely performed. The same precaution is applicable in forcibly administering medicine by the spoon. A sudden, incautious attempt to give medicine in Case XX. produced a convulsion.

THE CLIMATE OF MALTA,

CONSIDERED WITH REFERENCE TO THE DISEASES OF THE NATIVES, ENGLISH RESIDENTS, AND INVALIDS.

By T. Spencer Wells, F.R.C.S.
Surgeon R.N., late Assistant-Surgeon in Malta Hospital.

Part I.

This part will be chiefly confined to a consideration of the physical characters of the climate of Malta, as compared with that of the south-west of England, of London, Southern Europe, and Madeira. In the second part, under the heads of each class of diseases, the sanative or injurious effects of the climate upon them will be treated at some length.

Dr. Schembri has published a pamphlet on the temperature of the atmosphere of Malta, and his results are drawn from observations made during the twenty years from 1820 to 1840 inclusive in the Military Hospital, three times daily—namely, at 9 A.M., at noon, and at 3 P.M. A correct knowledge of the real nature of the climate, however, cannot be obtained from these records, but they are valuable from shewing the temperature a patient might obtain by living in a room completely protected from the direct rays of the sun, freely ventilated, and warmed in winter by a fire, for such is the room in which the instruments are kept; and as observations are taken only during the day from a common thermometer, the temperature of the nights is not given—a circumstance of great importance in calculating the daily and extreme ranges of the instrument. I have appended to the calculations of Dr. Schembri, others I have made from observations taken at 9 A.M., 1 P.M., and 5 P.M. daily, during the five years I resided in the Naval Hospital, from 1842 to 1846 inclusive. The instruments were kept in the open air in the shade with a northern exposure, until after the second daily observation, and then as the sun came round they were removed within the window, so as to be protected from the direct rays of the sun. The results, therefore, show the temperature of the open air in the day-time in an exposed situation 120 feet above the level of the sea, and only a few yards from the sea shore. No night observations were made; and no register thermometer having been used, the daily and extreme ranges are doubtless considerably below the true average. I have also obtained the results of observations made at the University, but none have been made with register instruments for a sufficient length of time consecutively to afford a correct average. The figures in the following statements can only be regarded, therefore, as approximations towards a true result. It is not until a careful series of observations with dry and wet bulb thermometers, a barometer, also register instruments, and a pluviometer, be made for several consecutive years, that the real physical characters of the climate of Malta can be determined. I am happy to be able to add, that such a series is about to be commenced at the Naval Hospital.

Dr. Schembri states that between the longitudes 129 E. to 16 W., Malta is the most southern point of the isothermal curve, which passes from 68° to 59° of north latitude, as it has the same annual mean temperature as many places on the northern shore of the Mediterranean upwards of 8 degrees of latitude farther north. This, according to Schembri, is 67·30; the highest mean during 20 years was 68·8; the lowest 65·8. The observations at the Naval Hospital give a mean of 67·62, about 17 degrees above that of London, 15½ above that of the S. and SW. coast of England, 3 above Madeira, and from 5 to 10 above various parts of Southern Europe. Sir Howard Elphinstone's observations, made with a *register* thermometer, give 64° as the mean temperature of the year 1833.

In calculating the mean temperature of the seasons, the usual division has been adopted for the sake of comparison with other climates, but nothing like the spring and autumn of northern latitudes can be clearly defined in Malta. From April to October a perpetual summer, and during the other months a wintery spring, may be said to prevail. The following is the mean temperature of the seasons as drawn from the results of observations during twenty years in the Military Hospital, and five at the Naval Hospital; and in this, as in all other cases, it must be remembered that in one establishment the instruments were kept in a room; in the other in the open air:—

	Winter.	Spring.	Summer.	Autumn.
M. H.	56.9	66·1	79·5	66·7
N. H.	55·86	60.45	79·48	74·71

Dr. Schembri gives the following table of the highest and lowest mean temperature of the different seasons during the twenty years:—

	Mean temperature.	Highest mean.	Year.	Lowest mean.	Year.	Difference.
Winter . .	56·9	59·1	1820	54·1	1822	5·
Spring . .	66·1	69·	1823	63·8	1837	5·2
Summer .	79·5	83·2	1822	77·5	1821	5·7
Autumn .	66·7	69·6	1822	64·3	1837	5·3

It will be seen that, although the annual mean temperature shewn by the two series of observations is much the same, the distribution in the different seasons varies considerably. Thus, in the second series, while the autumn temperature is 8·01, and the summer ·02 higher, the spring is 5·65, and the winter 1·04 lower. Compared with London, the summer is about 16°, the spring 12, the winter 17, and the autumn 23 higher; and with the South of England, 11 in winter, 11 in spring, 19 in summer, and 21 in autumn, higher. Compared with Madeira, although there is only about three degrees difference in their annual mean temperature, the winter in Malta is 5, and the spring 2, lower, while the summer is 10, and the autumn 7, higher.

The difference in the mean temperature of winter and summer, according to the one set of observations, is 20·74; to the other, 23·62—that of London being 23·20, of the South of England about 17, and at Madeira only 8·76. The following table shews the difference of the successive seasons, according to the two series of observations at Malta, compared with other places:—

	Of winter and spring.	Of spring and summer.	Of summer and autumn.	Of autumn and winter.
Malta { M. H. .	5·30	15·44	7·17	13·57
Malta { N. H. .	4·59	19·03	4·77	18·85
London	9·64	13·56	11·00	12·22
Penzance . . .	5·60	10·57	6·84	9·33
Madeira	1·76	7·20	2·26	6·70

Subjoined is the mean temperature of the months according to the two series of observations:—

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
M. H. .	56·50	56·30	58·10	61·80	67·40	73·80	79·60	81·20	77·80	71·10	64·20	59·60
N. H. .	52·	54·5	55·25	58·10	68·	74·15	81·20	83·10	81·5	68·	61·75	55·20

The mean temperature of May in London, and of June in Edinburgh, corresponds with that of January in Malta. April in Malta corresponds with the hottest part of the summer in London, and May with that of Paris.

The mean temperature of the summer in Paris corresponds with that of spring in Malta. As a general rule, the mean temperature of all the months is a little higher in Malta than in Italy.

The difference between the mean temperatures of the warmest and coldest months, according to one series of observations, is 24·90; to the other, 31·10, —a difference owing probably to the position of the instruments at the two hospitals, and the later hour of the afternoon observation at the naval establishment. This difference at London is 26·17; at Penzance, 18·70; and at Madeira, 12·17.

The difference of the mean temperature of successive months is as follows:—

	Dec. & J.	J. & F.	F. & M.	M. & A.	A. & M.	M. & J.	J. & J.	J. & A.	A. & S.	S. & O.	O. & N.	N. & D.
M. H.	3·10	0·20	1·80	3·70	5·60	6·40	6·20	1·60	3·40	6·70	6·90	4·60
N. H.	3·20	2·5	1·20	2·85	9·90	6·15	7·05	1·90	1·60	13·5	6·25	6·55

The mean difference, according to the one series, is 4·19; to the other, 5·22: and it will be seen that, while the general difference of the seasons is not great, the increase of heat in May, and its decrease in October, are much more marked in the latter series, which, I presume, is owing to the thermometer being in the open air. Thus, if we take the mean difference of the successive months from October to April, the period which is generally selected for residence in the island by invalids and those who are able to leave as the heat comes on, the first series gives 3·38, the second 3·92, while for the other six months there is a difference of nearly two degrees between the results. In London this mean difference is 4·36; at Penzance, 3·11; at Madeira, 2·03. The mean successive difference of the winter months at these places is as follows:—Malta, 3·92; London, 4·17; Penzance, 2·86; Madeira, 1·57. So that, in comparison with the SW. of England, the temperature of Malta in the winter months is 11° higher, but upwards of one degree more variable, as shewn in the mean temperature of successive months. The variability is still more marked in comparison with Madeira. Dr. Schembri gives the greatest increase as that from May to June, 6·4; the greatest decrease from October to November, 6·9; and 4·1 as the mean.

The greatest difference between the highest and lowest mean temperature of the different months—that is, the difference between the hottest and coldest January, &c.—during the period of the observations, was as follows:—

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
M. H. . .	7·1	8·	6·8	6·4	7·2	6·4	6·8	6·	5·9	7·3	6·	3·9

The extreme ranges of temperature, or the difference between the lowest and highest degrees marked by the thermometer in Malta, vary greatly according as the observations are made in town or in the country, the temperature of the town being much more equable, owing to its narrow streets and lofty, massive buildings, while the barren rocky surface of the country, unprotected by trees from the sun's rays by day, is rapidly cooled at night by unchecked radiation. This was clearly shewn by two simultaneous series of observations made by Sir Howard Elphinstone and Dr. Davy in 1833; the one in Valletta, in a house 100 feet above the level of the sea; the other in an open part of the suburbs, only a few feet above the sea level, and about 100 yards from the water's edge. The greatest daily variation in town was only 4, and in the country 20; the extreme range during the two months' observations in town being 13, and in the country 39; the highest point being 102, the lowest 63. Similar comparative observations were made in July, in Valletta, and at the Inquisitor's palace, about 600 feet above the level of the sea, seven miles distant from Valletta, and about one from the coast. In the country, the highest was 86; lowest 66; greatest variation in 24 hours, 14; in town, the highest was 88; lowest, 74; greatest variation in 24 hours, 7.

In Sir H. Elphinstone's observations for three years in Valletta, the extreme daily range was 14; the extreme range in any month, 25; and during the whole period 46°, the highest elevation being

88, the lowest depression 42. His instruments were suspended from a window with a northern aspect, upon which the sun never shone. The extreme range during the five years' observations at the Naval Hospital was also 46, the highest point being 96, the lowest 49. A comparison of these different observations would shew the mean extreme annual range of Malta to be about 38. The greatest difference in the *mean* temperature of the hottest and coldest days in each year from 1820 to 1840, shews that the extreme annual range has varied during that period by about 16 degrees—namely, from 44, the greatest, to 28, the smallest, range; the mean, 33·05. In London it is 64. In the SW. of England, 49; at Rome, 62; Naples, 64; Nice, 60; and Madeira, 31; the latter being the only place at which the range is less than at Malta. The mean of the hottest day in Malta during the 20 years was never below 82, nor above 90; that of the coldest, never below 46, nor above 55. The difference between the mean of the hottest and coldest months in the same period was greatest in 1822, being 32·9; and lowest in 1838, being only 21·1. The mean temperature of the hottest and coldest days in each month, on being compared together, give the following as the extreme range of the months. They are, compared with London, Penzance, and Madeira—

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
M. H. .	17	16	15	16	19	18	15	14	19	18	16	13
N. H. .	15	12	11	14	20	16	15	13	15	20	14	21
London .	28	27	32	37	39	48	33	38	35	33	30	30
Penzance	25	23	24	26	26	25	23	21	22	22	21	22
Madeira	18	20	17	17	19	17	16	17	16	19	19	19

As a general rule, August is the hottest month,—February the coldest. The hottest day in all meteorological observations has been found between the 21st July and 24th September; the coldest between 22d December and 23d March; the duration of the greatest cold thus exceeding that of the greatest heat. From February the temperature gradually increases to August, and then diminishes again to February; the increase from March to June being more gradual than the decrease from September to December in the proportion of 15·7 to 18·2, whereas, in most other places, the autumnal decrease is more rapid than the spring increase. In only 2 years of 20 did the mean temperature of July exceed that of August; the coldest month in 10 years was February; in 9, January; and in 1, March.

[To be continued.]

SUDDEN APPEARANCE OF THE CHOLERA AT THE INFANT PAUPER ASYLUM, TOOTING.

CONSIDERABLE alarm has been occasioned by the outbreak of cholera at Mr. Drouet's Infant Poor Establishment, at Tooting. Up to Friday last the children, upwards of 1,400 in number, exhibited a healthy appearance, when some of them were attacked with diarrhœa; several of the cases assumed the appearance of Asiatic cholera, and in a few cases death ensued in the space of three hours. Mr. Drouet having informed the authorities of the several metropolitan parishes and unions, in order to lose no time, and on his own responsibility, procured the attendance of Dr. Addison, of Guy's Hospital. The authorities, with their medical officers, met this gentleman at Mr. Drouet's, and after a consultation the wards were visited, when 57 cases, of which 12 proved fatal, were found to have occurred. The patients were examined with the greatest attention, and although each individual case did not exhibit all the appearances and forms of Asiatic cholera, still, taking the cases collectively, the medical gentlemen agreed in opinion that there was every symptom belonging to the malignant form of the disease. The bodies of the children turned perfectly blue after, and in some instances before, death. The opinion of the medical gentlemen was that the disease arose from atmospheric poison.

THE CHOLERA IN BELFAST.

WE have pleasure in stating that, although the cholera steadily continues its progress, yet the comparative mortality is greatly diminished. At the time of our last publication the entire number of cases in Belfast was 36, and the deaths 19, showing a mortality of more than one half. Up to 3 P.M. on Tuesday the entire cases were 56, the deaths 23, under treatment 14, showing a considerable decrease even in the aggregate; but if we compare 20, the number of new cases, with 4, the number of deaths, it is evident that the mortality is diminished to one-fifth.

MEDICAL GAZETTE.

FRIDAY, JANUARY, 5, 1849.

OUR readers are aware that attempts have been made to extort from the over-worked body of Union Medical Officers, those services which have been rendered necessary by the advent of cholera, as well as by the enactment of various sanitary measures. The additional work has been clearly defined, but the question of extra-remuneration has been left, as in all financial matters connected with the profession, to the charitable consideration of men who have hitherto rendered themselves remarkable only by their want of liberality. In this city it appears to have been considered that by paying *one* officer of health a fair annual salary, the authorities had fairly entitled themselves to the gratuitous services of *all* the Union Officers. This romantic view has, however, received a very proper check. In our last number,* we inserted a short paragraph, from which our readers will perceive that the city practitioners decline taking upon themselves these extra-services, unless they are appointed district sanitary officers, with a salary of fifty pounds per annum. Considering that we are living in a prosaic age, and that we are not denizens of an "Icarian" republic, in which every body does every thing for *his* neighbour gratuitously, this is only a fair and reasonable demand; and it is one to which the Commissioners must, in our judgment, either give their assent, or adopt the alternative of creating a comfortable sinecure for their solitary officer of health. With regard to the greater number of Union Officers throughout the kingdom, their case is peculiarly hard; for it would appear that they are likely to be made the victims of an Act of Parliament under the merciful interpretation put upon the clauses of the Act by their ancient enemies, the Boards of Guardians.

This subject has been very properly taken up by the Committee of Poor Law medical officers. We subjoin the memorial addressed by the Committee to the Poor Law Board:—

(*Copy.*)

"That your memorialists having been duly appointed a Committee at a Convention of Poor Law Medical Officers, assembled at the Hanover Square Rooms, on the 27th October, 1847, for the purpose of seeking an amelioration of the present system of Poor Law Medical Relief, respectfully beg to call the attention of your honourable Board, to the powers conferred by the Act, "for the Prevention of Nuisances and Diseases," whereby your honourable Board is authorized to require from the medical officers of unions the performance of various duties in reference to sanitary regulations, without awarding any remuneration for such onerous and important services.

"Your memorialists beg to protest firmly, but respectfully, against the imposition of such duties.

"1st. Because the said duties are altogether foreign to the special duties of Union surgeons as medical attendants on the sick poor, and are not named, nor even contemplated, by the honourable the Commissioners of Poor Laws in their order defining the duties of the medical officers of unions; and because they are entirely distinct from the functions assigned to the medical officers of unions in their contracts with the Boards of Guardians.

"2nd. Because such sanitary duties not being embraced in the legal contracts, nor in the instructions of the honourable the Poor Law Board, under which the Union surgeons entered into their engagements with the Boards of Guardians, the orders of your honourable Board are a violation of the rights of Union surgeons as private citizens, and are contrary to the spirit of the common law of the land.

"3rd. Because it is unjust to require the medical officers of unions to perform arduous and valuable services without remuneration; and because such orders are at the present time peculiarly obnoxious and oppressive, inasmuch as the medical officers of unions have for a long time complained of the great inadequacy of the present payments for their ordinary services as the medical attendants of the sick poor.

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* Page 1166.

"Your Memorialists therefore pray that your honourable Board will imperatively award such remuneration for sanitary services as shall be equitable and just.

"(Signed on behalf of the Committee,)

"THOMAS HODGKIN, M.D.,
Chairman.

"CHARLES F. J. LORD,
Hon. Secretary."

"Convention of Poor Law Medical Officers,
4, Hanover Square, December 9th, 1848."

The grounds upon which this memorial is based, appear to us to be unanswerable. The Poor Law Board contend that the protest against the imposition of these additional duties does not apply to them; and that they have no power to order payment for their performance. The following reply was sent to the memorial of the Committee:—

"Poor Law Board, Somerset House,
"18th Dec., 1848.

"Sir,—I am directed by the Poor Law Board to acknowledge the receipt of a Memorial of the Chairman and the Committee of the Medical Officers of the Poor Law Unions, acting under the authority of a Convention of the Poor Law Medical Officers, assembled on the 27th October last, in which Memorial the attention of this Board is called to the powers conferred by the 11th and 12th Vict., cap. 123, in requiring from the Medical Officers of Unions the performance of various duties having in view the removal of nuisances, and the prevention of contagious and epidemic diseases; and a protest against the imposition of such duties is conveyed therein for the reasons set forth.

"The Board desire to observe, that the Act of Parliament itself here referred to, and not the Poor Law Board, has imposed the duties rendered obligatory upon the medical officers under the Act.

"All that the Board are able to do in the matter is, to point out to the Guardians of Poor Law Unions the provisions contained in the General Consolidated Order of the Poor Law Commissioners, which enables them to give gratuities for extraordinary services rendered by their officers;—also, the provisions of the statute rendering it competent to the Guardians to appoint persons in aid of their officers where the duties they are required to perform under it, would press too much upon the time of their officers. This course the Board has followed in very many instances since the directions of the General Board of Health have been issued.—I am, sir,

"Your obedient servant,
"W. G. LUMLEY, Assist. Sec."

"To C. F. J. Lord, Hon. Sec.
Committee of Poor Law Medical Officers,
4, Hanover Square."

A copy of the memorial was then addressed to the General Board of "Works," and it elicited the following answer.

"The General Board of Health,
"Gwydyr House, Whitehall,
"Dec. 15, 1848.

"GENTLEMEN,—I am directed by the General Board of Health to acknowledge the receipt of your Memorial, dated the 12th inst., calling the attention of the Board to certain provisions of the Nuisances Removal and Diseases Prevention Act, whereby they are empowered to require and enforce the performance of various duties in reference to sanitary regulations by the medical officers of Unions, and pressing upon the attention of the Board the injustice of enforcing the performance of such duties without awarding just and suitable recompense; and praying that the Board will deem it expedient to issue such instructions as shall give the Union surgeons performing the duties of a Medical Officer of Health, a legal claim to remuneration.

"I have to inform you, in reply, that in the object of your Memorial—namely, that the Union surgeons should receive fair and adequate remuneration for the extra services which are required of them under the Nuisances Removal and Diseases Prevention Act,—the General Board of Health entirely concur; but they have to call your attention to the fact that the power of requiring the performance of these duties by the Union surgeons, and the payment of all expenses which may be incurred therein, are left entirely with the Boards of Guardians by the 12th and 14th sections of the Act itself, and are not determined by the regulations of this Board, as you would appear to apprehend. The Board, therefore, are not in a position to enter upon questions of right upon which they are not authorized to adjudicate; but, that you may be made acquainted with the feeling of the Board upon the subject of remuneration for these extra services, I am to transmit to you herewith a copy of the 2nd notification issued by the Board on the 31st October last, and to direct your attention to the following paragraph therein marked in the margin, which would appear to have escaped your notice:—

"'It appears to the General Board of Health to be absolutely necessary, in the present emergency, to concentrate responsibility on the medical officers, and to entrust them with discretionary powers, because the rapidity of the course of cholera will not allow them to wait for direction from the Guardians at their weekly meetings; and, seeing the many and arduous duties that devolve upon the medical officers, the General Board of Health cannot but express a hope that the remuneration of these officers will be more proportionate to the value of the services required of them, than it was upon the former occasion.'

"I am, gentlemen,
"Your most obedient servant,
"HENRY AUSTIN,
"Secretary."

"To Thomas Hodgkin, Esq., M.D., Chairman; and Charles F. J. Lord, Esq., Hon. Sec. of the Committee of Medical Officers of Unions in England and Wales."

The result of this correspondence is, that the evil is publicly exposed; but there appears to be at present no practical remedy. The Poor Law Board allege that the Act of Parliament imposes these duties. The General Board of Health (or Works?) set the Act in motion, by issuing their sanitary notifications; but they have no power to do more than *recommend* additional payment; so that, taking the two Boards and the Act together, the officers of Unions who have justly petitioned for an increase of salary, have actually additional duties thrown upon them, while the salary remains the same.

We quote those parts of the Act of Parliament which refer to this grievance. The tenth clause gives power to the Board of Health to issue directions and regulations:—

"And the said Board or last-mentioned Commissioners may by any such directions and regulations authorize and require the guardians of the poor in England and Ireland, and the parochial Boards for the management of the poor in Scotland, by themselves or their officers, or any persons employed by them in the administration of the laws for the relief of the poor, or by officers specially appointed in this behalf, to superintend and see to the execution of any such directions and regulations."

This renders it clear that the Board of Health can order the work to be performed.

"XII. And be it enacted, That the Commissioners for administering the laws for the relief of the poor in England and Ireland respectively, and the Board of Supervision established under the said Act for the amendment and better administration of the laws relating to the relief of the poor in Scotland, may require the officers and persons acting under them to inquire into, superintend, and report on the execution of the directions and regulations of the General Board of Health, or Commissioners of Health, as the case may be, under this Act, and shall have the same powers for enforcing and directing the execution of such directions and regulations by the said guardians and parochial Boards respectively as they now or may hereafter have in relation to any matter concerning the administration of the laws for the relief of the poor."

From this we learn that the Poor-Law Commissioners have a power under the Act to compel the guardians of the poor to execute the regulations and directions issued by the General Board of Health, and to see that the work is properly performed by their appointed officers.

In reference to remuneration, the Act is perfectly silent: indeed, the officers of Poor-Law Unions are treated by it as if they had but few duties to perform, and were considerably overpaid! The Act provides an apparent remedy for the injustice thus perpetrated on a large and important section of the medical profession, in a part of the fourteenth clause:—

"XIV. And be it enacted, That the said Guardians and parochial Boards *may appoint* or employ, for the superintendence and execution of the said directions and regulations, *officers or persons in aid of the officers* or persons employed in the administration of the laws for the relief of the poor; *and such Guardians or parochial Boards* *respectively shall defray, the expenses* incurred by them respectively in the superintendence and execution of such directions and regulations out of the funds of their respective Unions, parishes, or combinations."

It will be seen that Parochial Boards *may appoint* additional officers — an optional power which, as we pointed out soon after the passing of the Act, it was quite certain they would not exercise, since the expenses of these additional appointments were thrown upon themselves. It would be contrary to the whole spirit of the Poor-Law administration that any Parochial Board should tax itself by creating new offices, for the sake of relieving those medical officers from whom they have for years exacted a maximum of work for a minimum of pay.

What, then, is the remedy? In our judgment, the 14th clause should be so altered, that in case an equitable arrangement be not made between Parochial Boards and Union Officers, the former *should be compelled* to appoint or employ other medical men for carrying out the regulations, &c. under the Act. The Parochial Boards would then be able to form an idea of the pecuniary value of the services which they are now endeavouring to enforce without payment from a large number of professional men. The passing of this Act, with a clause so loosely worded, is a clear proof that medical interests are wholly disregarded by the House of Commons,—a result for which we must be prepared, until some professional men of high standing and experience are admitted within its walls in a legislatorial capacity.

We have heard, on good authority, that the General Board of Health are in possession of information, demonstrating incontestably that the cholera has been imported from Glasgow into Liverpool. A family, consisting of a man and his wife, with several children, recently arrived at Liverpool. When they left Glasgow, where, as our readers know, cholera has existed for some time in a severe form, they were in apparently good health; but on their arrival in Liverpool, the husband and wife were seized with cholera, and died. Two females who attended them as nurses, were attacked, and died; and although up to this time the disease had not manifested itself in the town, it began to spread. We stated in our last number, that on the previous Wednesday there had been in Liverpool seven cases and six deaths. Although the truth may be adverse to the view taken in the early notifications of the Board, it is desirable that the documents forwarded by the Liverpool authorities should be made public. It is proposed to abrogate the Quarantine laws, on the ground that they cannot, however efficiently maintained, keep out cholera from a country or a town. The *whole* truth should, however, be laid before the public, and not so much of it as may tally with the views of the commercial party who desire, at all sanitary risks, to abolish laws which interfere with commercial intercourse. The transference of the disease across the Atlantic in one of the New York packet ships, is, from the latest advices received, rendered in the highest degree probable. With all their ardour for freedom of trade and commerce, the Americans have not hesitated to place the vessel in quarantine. The General Board of Health have taken up this important question of the *communicability* of the disease, in the same petty light in which they have laid down rules regarding the diet of the public. In a question affecting the health of nations, we have to see, not whether the disease be generally taken by the medical attendants of the sick, or whether it attacks all persons in a house, or spreads from one house to another in a street; but whether in any *one* instance, there is fair and reasonable evidence of its conveyance by human intercourse from one locality in which it exists, to another, which has not been affected. It is assuredly not in our power to trace out its mode of propagation in all places; but the material question which concerns the intercourse of nations, is—Can we obtain reasonable evidence of its communication to any one locality by the arrival of persons or goods from a spot where it was prevailing? We think there are many facts recorded which justify a distinct answer in the affirmative to this question; and it is only fair that the whole of the circumstances connected with the outbreak of the disease in Liverpool should be at once laid before the public, in order that we may know whether those who manifest such eagerness to abolish quarantine entirely, are or are not pursuing an unwarrantable course.

It is not often that we open our columns to appeals to the private benevolence of members of the profession, but the case of Miss Langstaff appears to justify a departure from the rule. It is with regret we learn, through high professional authority, that this lady has been left destitute, by the death of her father, which took place in 1846. His name must be well known to all professional men, but especially to the pupils of Sir Astley Cooper and John Abernethy. Mr. Langstaff was a Fellow of the Royal College of Surgeons, and for many years enjoyedin this metropolis a high reputation as a practical surgeon. He devoted the greater part of a long life, and the whole of his professional income, to the formation of a museum which was considered to be the best private collection in this country. By his death his daughter has been reduced to a state of destitution; and, as we are informed, in consequence of ill health, she is unable to gain a subsistence. An appeal is thus made to the profession, in the hope that a sufficient sum may be raised by subscription, to purchase for her an annuity.*

In making this appeal, we feel bound to impress upon all medical practitioners who have wives or daughters dependent on *their* exertions, and perhaps now living in affluence during a prosperous career of practice, the importance of insuring their lives *for* the benefit of those who may survive them. The charity of the profession towards its destitute members, as well as towards the poor, is great; and an appeal for a deserving object is seldom made in vain. At the same time, no professional man, who has it in his power, by a slight sacrifice of income, to provide for those who may outlive him, should trust to an appeal of this kind for rescuing from starvation, individuals whose urgent claims for support commence only with his death. Destitution and its accompanying miseries are in all cases hard to be borne, but on no persons do they press so severely as on those who have been brought up in affluence, and with a fair prospect of independence. The author of the Diary of a Physician has given us, in his "Early Struggles," a forcible picture of the difficulty of obtaining practice. The story of the educated and accomplished wife or daughter, left utterly destitute by the death of one whose flourishing professional income was their sole support, yet remains to be written.

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* Subscriptions are received by the following gentlemen:—J. P. Vincent, Esq., 16, Lincoln's-Inn Fields; James Bidden, Esq., 1, Royal Exchange Buildings; Thos. Wedgwood, Esq., Crispin Street, Spitalfields; Edwd. Stanley, Esq., 28, Brook Street, Grosvenor Square; Wm. Cory, Esq., Commercial Road, Lambeth; P. Stainsby, Esq., 44, Finsbury Square; A. Rogers, Esq., 296, Regent Street; Dr. Jeaffreson, 2, Finsbury Square; also Messrs. Robarts, Curtis, and Co., Lombard Street.

We regret to announce that the weekly deaths have undergone a very sudden increase, the return showing the large number of 249 above the average of the season. This increase is partly to be ascribed to the great fatality of zymotic diseases.* The deaths from cholera have not increased, being only 30 this week to 31 in the preceding week. In Glasgow, however, the ravages of this disease have been as great as in any of the undrained towns of the Russian empire. The following table shows the number of cases and deaths which have occurred in London and Glasgow respectively since our last report:—

	CASES.		DEATHS.	
	Lond.	Glasgow.	Lond.	Glasgow.
Dec. 28th..	2	118	2	64
„ 29th..	3	133	1	64
„ 30th..	0	162	0	70
Jan. 1st ..	4	156	0	72
„ 2d....	2	177	1	76
„ 3d....	1	184	1	78
	12	926	5	424

It will thus be seen that in six days there have been in London only 12 cases and 5 deaths, while in Glasgow there have been in the same period no less than 926 cases and 424 deaths. The following table represents the total number of cases and deaths up to Jan. 2:—

	Cases.	Deaths.
London . .	544	274
Provinces .	364	186
Scotland . .	4104	1924
	5012	2384

Reviews.

A Treatise on the Practice of Medicine. By George B. Wood, M.D., Professor of Materia Medica and Pharmacy in the University of Pennsylvania; Physician to the Pennsylvania Hospital, &c. &c. In two volumes, 8vo. pp. 791 and 840. Grigg, Elliott, and Co., Philadelphia, 1847.

The author of this work is a man of deservedly high reputation in his own country, and is favourably known on this side of the Atlantic by his contributions to medical literature. The two volumes which we here introduce to our readers, have been for some time on our hands; and we think we may be fairly excused for some delay in the publication of our remarks upon them, when we state that they contain more than 1600 pages, large octavo, printed in rather close type. In examining this vast accumulation of materials, it is easy to perceive that Dr. Wood has not acted as a mere compiler. While he has profited by referring to every available source for the purpose of adding to his facts, and confirming his views, he does full justice to the labours of others. As a physician of thirty years' standing, he has had sufficient experience to judge of the value of the information which he has thus derived from others, and at the same time to give to his work the stamp of originality.

This treatise is divided into two parts, the first comprising General Pathology and Therapeutics; and the second, Special Pathology and Therapeutics. The latter necessarily occupies by far the larger portion of the two volumes. The author first gives a short notice of the constituent forms of disease, including diseases of the fluids, solids, and those depending on mechanical or chemical causes. He then passes to the subjects of inflammation, fever, and diseases characterised by peculiar morbid products; and this part is terminated by remarks on the causes and symptoms, as well as the diagnosis and prognosis, of disease. As a specimen of the author's mode of treating this part of his subject, we shall make an extract from the section on *inflammation*. After stating that the loss of life in a part is denominated

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* A large number of deaths under coroners' inquests, the accumulation of previous weeks, is included in this return.

mortification, and the resulting condition *gangrene*, or sphacelus, Dr. Wood says:—

> "The approach of gangrene, in parts that can be seen, is usually marked by sufficiently striking phenomena. The circulation, though it still goes on in the larger vessels, is much more languid, and, in a portion of the capillaries, is nearly or quite suspended; the colour becomes much darker, assuming a purple-red or even livid hue; the sensibility is in general diminished, though a sense of burning is usually experienced, and very severe pain sometimes immediately precedes mortification; the temperature is lessened; the tumefaction, though often somewhat augmented, is attended with a softness and flaccidity not before existing, and is apt to have a doughy feel; and a dark, bloody, turbid serum is effused into the interstices of the affected tissue, or upon its surface. Absolute gangrene is evinced by a total cessation of circulation, so that the part will not bleed if cut into, an entire loss of sensibility, a change of colour to black, greyish, or livid, and a loss of the natural heat, unless in so far as caloric may be supplied from the neighbouring parts. At a period after the death of the part differing according to the degree of exposure to the air, the temperature, and the amount of fluids present, chemical changes take place, attended with the evolution of fetid gases, constituting what is commonly called putrefaction. In this condition the tissues are very much softened, so as to be easily broken or torn, and have their interstices filled and often distended with fetid gases, and with brownish, turbid, and offensive liquids. But putrefaction must not be confounded with mortification. The latter often takes place a considerable time before the former makes its appearance; so that the absence of an offensive smell is no proof that mortification has not occurred. Still, as spontaneous decomposition begins sooner or later, and as parts which have entirely lost the ordinary signs of life sometimes resume vital actions and return to health, it is safest, as a general rule, not to admit the existence of gangrene unless some evidence of decomposition is presented." (p. 33.)

In the second part, under the head of General Diseases, we have a description of the various forms of fever, including the exanthemata; constitutional diseases, including rheumatism and gout; diseases of the digestive organs, which occupy a considerable space, followed by diseases of the respiratory organs; of the circulatory system; of the secretory organs; and lastly, diseases of the brain and nervous system. Each disease is treated in a most systematic manner, so that reference is facilitated notwithstanding the great copiousness of the details. By a frequent subdivision into paragraphs, the reader is at once guided to history, symptoms, diagnosis, prognosis, or treatment.

In his description of *lead colic*, Dr. Wood properly observes:—

> "When a disease having the characters of colica pictonum occurs, attention should always be directed to the discovery of some possible source of this poison. In a garrison of U.S. soldiers, at Fort Delaware, numerous violent cases of the disease occurred, which were found to be owing to the use of water collected in cisterns from a large painted roof. (*Am. Journ. Med. Sci.*, N. S., iii. 319). The constitutional susceptibility to the poisonous action of lead is exceedingly different in different individuals; some persons escaping under precisely the same circumstances as those under which others suffer; and one individual being attacked only once or twice in his life, while another is subject to the disease upon every fresh exposure. Women are attacked much less frequently than men; but this is probably owing exclusively to the circumstance, that they are much less exposed to the cause. The great prevalence of the disease at certain seasons, which has been observed by some, is ascribable to the greater activity, during these seasons, of those occupations which give occasion for its attack. Inferior animals, in the vicinity of white-lead factories, are said to suffer in a similar manner with man." (p. 602-3.)

The fact that animals, such as horses, employed in white-lead factories, are liable to attacks of the disease, appears to show conclusively that the lead-poison enters the system rather by the lungs than by the stomach or skin. On the important subject of treatment, we find the following observations:—

> "This is one of the complaints which, in the great majority of cases, get well spontaneously, and in which various modes of practice have acquired some repute, from the mere circumstance that they have been employed without proving an obstacle to the favourable course of nature. Nevertheless, there are remedies which are capable of producing a positive impression upon the complaint, of relieving it sooner and more effectually than nature would do unaided, and of counteracting its tendency to leave paralysis, and other serious derangements of health, behind it. The plan of treatment which has been generally adopted in this country, and which in my hands has almost invariably

proved successful, consists of a combination of opiates and purgatives, and a resort to the constitutional impression of mercury in rebellious cases. Mercury appears to exercise a specific controlling influence over the poison of lead; but, as its operation, if pushed too far, is very inconvenient, and as in so severe a [disease it cannot always be used with that caution which would secure only a slight impression on the mouth, it is best in ordinary cases to attempt the cure without a salivation, and to resort to this measure only under urgent and threatening circumstances. Two grains of opium may be given at once with from five to fifteen grains of calomel, to be followed in a few hours by castor oil, sulphate of magnesia, infusion of senna, croton oil, or some other active cathartic which the stomach may be best able to support; and cathartics should be repeated daily until the bowels are evacuated. The auxiliary employment of injections, as described under colic, may also be resorted to; and some advantage may be expected from fomentations, anodyne and emollient cataplasms, and rubefacients to the abdomen, and from the warm bath, though these remedies are less efficacious than in ordinary colic. The opiate should in general be repeated every night, in such quantities as may be necessary to alleviate the sufferings of the patient, and procure some sleep; being combined or not combined with calomel, according as the object may be to produce or not to produce the mercurial action. An anodyne enema containing a fluidrachm of laudanum may be substituted for opium by the mouth when the stomach is very irritable; or the sulphate or acetate of morphia, in the quantity of a grain, may be sprinkled upon a small blistered surface in the epigastrium under the same circumstances. This latter mode of relieving pain, and quieting irritability of stomach, may also be advantageously employed during the day, while efforts are made to evacuate the bowels by cathartics. Indeed, the internal use of opium is not incompatible with that of cathartic medicines, but sometimes rather favours their action by relaxing the spasm which resists it; and the two remedies may therefore be employed conjointly throughout the complaint." (p. 603-4.)

The author does not appear to have much confidence in the chemical plan of treatment.

"Ascribing the influence of alum, in the cure of colica pictonum, to its chemical action in converting the poisonous compound of lead which may have entered the system, into the insoluble and probably inert sulphate of that metal, M. Gendrin was induced to try the effects of sulphuric acid alone, and found this remedy not less successful. He states that he has employed the acid in more than three hundred cases, and uniformly with success. From a drachm to a drachm and a half of sulphuric acid, mixed with three or four pints of water, was given daily. (*Dict. de Med.*, viii. 395.) Whatever may be thought of the results, the explanation is, I think, more than doubtful. If alum and sulphuric acid are capable of curing painter's colic, it is by some other mode of action than by following the salt of lead in its course through the system, and changing it, wherever overtaken, into the sulphate." (p. 606.)

It is, we think, impossible to refer the beneficial effects which have been said to follow the use of sulphuric acid to the chemical conversion of the lead to sulphate. Sulphuretted baths have been also employed, but as these could only affect the skin, they must be regarded, chemically speaking, as inefficacious. Of late, the iodide of potassium has been recommended on account of its diuretic properties, and its alleged power of converting the lead-poison to iodide of lead, soluble in the medicine. It would be desirable to know whether the lead is thus carried out of the system by the urinary secretion. In the meantime, it may be observed that, while the iodide of lead is very soluble in caustic potash, it is not dissolved, or but to a very limited degree, by the iodide of potassium. This theoretical plan of treatment, therefore, requires to be supported by facts.

Dr. Wood gives a very elaborate article on Asiatic, under the name of *Epidemic, Cholera.* The history of the progress and symptoms of this disease have now become so familiar to our readers, as to render it unnecessary to quote the author's remarks respecting them. We shall only observe, that his summary of the disease has been made with great accuracy and care, and as we have now the disease among us, it will amply repay perusal. He considers that cholera is not communicable, or rather *not contagious*, under any circumstances. There has been much ink shed among ourselves on this subject, and it may be as well to hear what an American writer of reputation has to say in reference to this contested question.

"The hypothesis that cholera is propagated by contagion has not been without numerous advocates. In favour of this the facts have been adduced; 1, that it travelled along the lines of commercial intercourse, as in the course of large streams, in the track of caravans, and from port to port across seas or oceans; 2, that its rate of advance never exceeded the possible rapidity of human progression; 3, that its occurrence often succeeded the arrival of an infected ship, caravan, or corps of marching soldiers; and 4, that its attack was not general in the beginning, but, whether in a city or particular family, one or a few were seized at first, and then others successively, as if the cause had passed from individual to individual. But it will be perceived that these were not proofs of contagion, but only evidences, so far as they went, of the possibility, or at best of the probability of its existence; and it is not difficult to explain them without recourse to such an hypothesis. Thus, if the disease preferred the course of streams, it might have been in consequence of the known affinity of its cause for low, damp, and marshy situations; if it was observed especially along the routes of inland trade, this might have been owing to the circumstance, that the largest and most conspicuous towns, which it was apt to select, are upon these routes, while remote spots which it also visited are less open to observation; if it passed from an infected port to other transmarine ports between which there was commercial intercourse, the fact could scarcely have been otherwise if it travelled at all, so intimately are all parts of the world associated in the meshes of a universal traffic; *if its arrival* was often preceded by that of a ship or of travellers from an infected place, this might well have been the result of accident, and very often no such connection could be traced, while intercourse of the kind was constantly carried on, without the conveyance of the disease; and finally, if it sometimes attacked one person after another, instead of all simultaneously, this is nothing more than often occurs in the operation of morbid causes confessedly non-contagious, and was not always true of cholera, which occasionally prostrated multitudes at one blow. The case stated by Dr. Dickson, of Charleston, South Carolina, is one of the strongest that I have seen in support of the notion of contagion. The crew of a vessel which sailed from New York were seized with cholera when six days from port, and afterwards wrecked on a sandy island twenty miles from Charleston, far out seaward. Of the wreckers, attendants, and guards who went down from the city to the island, and of the negroes residing upon the island, four only in number, many were seized with the disease, and not a few died, while no case existed in Charleston itself, except among those who had visited the infected spot. But this event may be readily explained upon the supposition, *that the ship had struck a vein of the cholera atmosphere, which involved the island without reaching the main land.* The fact, also mentioned by Dr. Dickson, that an individual from the island was seized with cholera in the city, without communicating the disease to any one is not so easily reconciled with the idea of contagion. (*Am. J. of Med. Sci.*, xiii. 359). The case made out by the contagionists, therefore, fails of adequate proof. There were circumstances, moreover, in the course of cholera, which could not be explained upon their hypothesis. If propagated by contagion, why should the disease at one time have marched with an awful rapidity, and at another halted for years upon the confines of countries, open to a constant intercourse with the infected territory? Why should it have suddenly seized upon a certain district, raged fiercely for one or two months, and then left it altogether? Why should it have attacked large cities, and let the surrounding and closely associated rural villages go free? How, in fine, did it happen, that a distinct line was sometimes drawn between the infected and uninfected neighbourhoods; that a low damp spot was desolated, while a neighbouring height was in safety; that even the upper and lower stories of the same house should have been in opposite conditions in this respect;—while in all these cases there was no suspension of intercourse? The strictest quarantine regulations have often signally failed. The disease has laughed at walls, guards, and legal penalties. It may be said that, like scarlet fever, it might have been the result of an epidemic cause, and yet capable of propagating itself by contagion after it had been produced. But attempts of the most varied kind have been made to impart the disease by inoculation, and by introducing its different products in every way into the system, altogether without success. The suckling infant has failed to receive the disease from its mother. Physicians and other attendants upon the sick were not attacked in larger proportion than the rest of the population of the same class, similarly exposed in other respects. In hospitals situated in uninfected neighbourhoods, the attendants escaped altogether. Individuals affected with the cholera did not become centres of a new infection when removed to healthy situations. These facts are sufficient, I think, to prove that the disease was in no degree contagious." (p. 569-661.)

We must confess that we do not think the facts are sufficient to prove that the cholera is in no degree contagious, or, as we understand the word, communicable from one individual to another. The questions put by our author to establish the negative of the proposition, would apply with equal force to scarlet fever, typhus, and other diseases, which are admitted to be decidedly communicable. But the author appears to us to have brought forward, in Dr. Dickson's case, a satisfactory proof that the disease is in some instances propagated by contagion. We do not admit the ready explanation of the existence of *veins of cholera atmosphere*, which may involve an island without reaching the main land! We think it requires a large amount of philosophical credulity to admit, *pro hâc vice*, the existence of atmospheric cholera veins; and we wholly object to such an hypothesis merely for the sake of denying the existence of a contagious principle. If our author will refer to the case lately reported by Dr. Merryweather in this journal,* he will find that, on an hypothesis of this sort, the first patient must have carried home with him part of the cholera atmosphere,—a conclusion which is practically as much in favour of communication by personal intercourse, as if the poison had been actually generated in his body,—not to mention that the latter view has much greater probability in its favour. But the author's questions by which he justifies his scepticism, will, we think, be found satisfactorily answered in the paper recently contributed to our pages by Mr. James, of Exeter.†

Dr. Wood further tells us, "The strictest quarantine regulations have often signally failed. The disease has laughed at walls, guards, and legal penalties." The real question, however, is—how and in what way can we insure efficient quarantine? *Quis custodiet ipsos custodes?* On the present invasion, the first cases which occurred in England were on board of ships at ports in direct communication with Hamburgh, where the disease was raging. Hull and Sunderland were the towns in which cholera first manifested itself. The first case which occurred in Edinburgh was, we are informed on good authority, that of a pilot at Newhaven, who had been employed to bring in a ship which had arrived from the Baltic. The first cases which occurred in London were among the crews of vessels from Sunderland and the northern ports. It appears to us impossible to admit the existence of detached veins of cholera atmosphere taking the exact course of ships, and sailing just as fast, and no faster; and we are surprised that so clear-thinking a man as our author does not perceive the fallacy of the grounds on which he asserts so very positively that the cholera is "*in no degree* contagious." If he tests the question of contagion *generally* by such queries as those which he thinks are adverse to the occasional spread of cholera by this cause, he will be compelled to deny contagion altogether, or to admit it in some degree with respect to this disease. As to the cholera not being kept out by quarantine, we shall only remark that no quarantine has yet been devised by which it or any contagious disease can be with certainty kept out of a country. It would be impossible by any system of quarantine to prevent the importation of syphilis; and yet we should be most unwilling, from the failure of such an attempt, to draw the inference that the disease was not communicable. Men may enact laws against the importation either of contagious diseases or of foreign goods, but they cannot enforce their strict observance; and the slightest infringement vitiates the whole system, and renders it nugatory as a means of prevention.

In reference to *treatment*, we have the following observations:—

> "*In the stage of collapse*, the same indications are presented as in the previous stages, with two additional; namely, to check the excessive sweats, and to supply the loss of watery fluid and salts which has been sustained by the blood. There would seem to be even a stronger call for active stimulation; but experience has shown, that this measure should be employed with some reserve. In the existing state of the circulating fluid, it can be of little avail, and, when carried too far, it has the effect of still further aggravating the danger, by increasing the already excessive sweats, and exhausting the little remaining excitability of the system. The stimulants, however, already mentioned, may be used in small and frequently-repeated doses, and continued if found productive of no ill effects. The efforts to restrain the evacuations from the stomach and bowels, if these continue, should not be abandoned; and, though external heat has been found productive of little good, attempts should still be made to excite the surface by frictions and rubefacients. Sinapisms may be applied to the abdomen and extremities, and Cayenne pepper and brandy, oil of turpentine, tincture of camphor, liniment of ammonia,

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* Page 812.
† Page 928.

&c. over the surface of the body. To close the cutaneous exhalant orifices, astringent solutions may be employed, such as a saturated solution of alum in brandy; and for the same purpose, as well as indirectly to excite the skin, frictions with ice or iced water have been strongly recommended, and are said to be often very grateful to the patient. To repair, as far as possible, the loss of water and salts by the blood, the patient should be allowed to drink frequently of carbonic acid water with bicarbonate of soda in solution, weak animal broths with salt, iced-water, iced brandy and water, gum-water, barley-water, &c.; and injections of salt water with laudanum may be occasionally thrown up the bowels. When reaction has begun, the stimulants should be moderated or withdrawn, and attention confined chiefly to the correction of the quality of the blood by the continued use of suitable drinks, and to the obviating of any local irritations which may appear." (p. 668.)

The second volume will be found rich in practical information, and most valuable as a guide to the treatment of disease. We regret that the short space which we can assign to reviews in our journal, precludes us from extending our analysis of this treatise, which is in every respect creditable to its talented author. In the United States it cannot fail to take the same rank as that which Dr. Watson's work holds among ourselves; and we shall only remark that, like it, it deserves to find a place in every medical library in the United Kingdom.

The Elements of Materia Medica and Therapeutics. By JON. PEREIRA, M.D. F.R.S. &c. Vol. I. Third edition, enlarged and improved, pp. 897. London: Longman and Co. 1848.

WE lose no time in announcing to our readers the publication of a third edition of Dr. Pereira's Materia Medica, which we have reason to know has been for some time anxiously looked for by medical students. The volume is but little increased in thickness: the size of the page, however, is considerably enlarged, the work being printed on larger paper; and it is easy to perceive that many additions, alterations, and improvements have been made. One of these, which will immediately strike the chemical reader, consists in the employment of symbols and formulæ for the explanation of the chemical changes in the reaction of inorganic substances. At the same time, the old plan of representing the decompositions by diagrams is retained, probably for the especial use of those who had completed their studies before symbols were introduced. Any quotations from a work so well known as this, and which has deservedly become one of the highest authority in the department of medical science to which it relates, would be superfluous. The untiring industry of the author, and his extensive researches into the medical literature of every country, are impressed upon the mind of the reader in each page of the volume. Not a fact of any importance, bearing directly or indirectly upon his subject, is allowed by the author to escape. All are chronicled with accuracy and order: and instead of the dry history of a drug, the reader finds himself instructed in philology, natural history, botany, physiology, or chemistry; so that he can seldom refer for information on one point without acquiring some knowledge on others which had hitherto escaped his notice. This work shows that Dr. Pereira is not only an extensive reader, but a practical man. He has studiously endeavoured to bring the present edition up to the scientific level of the day, and in this we need hardly say he has succeeded. His quotations from the works of others, which are numerous, are marked by accuracy and care; and in all cases full justice is done to the respective authors. It is no slight compliment to him, as a medical writer, to say that he is studiously accurate in his references.

The third edition of this standard work, which is beautifully printed in clear and legible type, will, we doubt not, find an extensive circulation in the profession.

The Serpentine as it is, and as it ought to be; and the Board of Health as it is, and as it ought to be. By E. J. TILT, M.D. &c. Pamphlet. 8vo. pp. 67. London: Churchill. 1848.

THIS is a reprint of some clever articles which recently appeared in the pages of our contemporary the *Lancet.* The author has made some additions to them in this publication; and, taking the state of the Serpentine as a text, he has made some caustic remarks upon the niggardly pittance of sanitary reform doled out to the public under the new Acts. About one-half of the pamphlet is devoted to a moral vivisection of the members of the Board of Health (Works?), and a display of the inconsistency of their proceedings. These sanitary vagaries on the part of the Board have been already pretty fully exposed in our pages. Dr. Tilt recommends the Board, as a means of acquiring a little popularity, to indict the Commissioners of Woods and Forests, under the 11 and 12 Vict. c. 63, ss. 58 and 60, for allowing the Serpentine nuisance to continue! As Lord Carlisle is a sort of sanitary Janus, representing Woods and Forests as well as Public Health, this piece of advice is not likely to be followed. It is even beyond the power of mesmerism to make a man prosecutor and defendant in the same case. Dr. Tilt writes with an *iron* pen; but the absurdity of carrying out cleansing operations at one end of the metropolis, and of creating an Avernus at the other, deserved a severe exposure.

Lexicon Medicum, or Medical Dictionary, &c. By the late ROBERT HOOPER, M.D. F.L.S. Eighth edition, revised, corrected, and improved. By KLEIN GRANT, M.D. Large 8vo. pp. 1390. London, 1848.

THE fact that we have here an eighth edition of this well-known work, renders it scarcely necessary for us to do more than announce its publication. Compared with the early editions, it may, from the great increase of matter, be regarded as a new work. Dr. Grant has succeeded in preserving the plan of the late Dr. Hooper, and at the same time of giving to his labours that extension of detail which the recent progress of medicine had rendered indispensable. Of all medical works, none are so apt to indicate their ancient date and obsolete character, as Dictionaries and Cyclopædias. References are made to such works for what is new, and it is by this standard that their practical utility is tested.

It is not long since we laid before our readers a notice of the seventh edition of Dr. Dunglison's Medical Lexicon—a work which differs from the medical dictionary of Hooper, in the fact that it partakes much more of the character of a lexicon, or a dictionary of the terms used in medicine. Dr. Hooper's plan, which has been carried out by Dr. Grant, consisted in making his dictionary not merely a lexicon, but a compendious cyclopædia of the medical sciences. The ends which the editor has proposed to himself have been —1st, to supply the medical scholar with a correct and extensive medical lexicography; 2nd, to afford to the medical antiquary and literary physician, correct notions of the state of medicine at the different periods of its history; 3rd, to exhibit to the medical philosopher a just view of the relations and mutual dependencies of the medical sciences; and 4th, to furnish the medical student and practitioner with a concise but accurate survey of the present state of medical knowledge, in reference both to theory and practice. From our examination of the work, these objects appear to have been attained. We have found no lexicographical omissions of importance. As a Cyclopædia of the Medical Sciences, the articles will of course be found short; still they contain sufficient to recal to the practitioner the principal facts connected with each subject. This edition will be found more extensively useful than any of those which have preceded it.

M. FILHOL'S METHOD OF TESTING ARSENICAL DEPOSITS.

M. FILHOL has communicated to the *Journal de Chimie Médicale*, the following simple mode of transforming arsenical stains into arseniate of silver. He takes a porcelain saucer on which arsenical stain has been received, and inverts it over another porcelain saucer, in which is contained a small quantity of hypochlorite (chloride) of soda, mixed with about its volume of sulphuric acid, diluted with thirty or forty times its weight of water. In about one or two minutes, the arsenical deposit will have disappeared; then into the saucer which contained it a strong solution of neutral nitrate of silver is to be poured: immediately a brick-red discolouration is obtained. This is a test of extreme delicacy. It is important to remove the upper saucer immediately on the disappearance of the stain, otherwise the red colour of the arseniate may be concealed by the chloride of silver which is simultaneously formed. *Journal de Chimie Médicale*, Oct. 1848. X

⁂ If the arsenical deposit were received in a watch-glass, the time at which the stain disappears would be immediately perceptible.

Proceedings of Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

December 12th, 1848.

J. M. Arnott, Esq., F.R.S., President.

Observations on Creeping Bubo; illustrated with sixteen drawings and cases. By Samuel Solly, F.R.S., Senior Assistant-Surgeon to St. Thomas's Hospital, &c.

The object of this paper is to distinguish a form of bubonic ulceration which requires mercury for its cure. The author begins by reprobating the practice of treating syphilis without mercury, and attributes the numerous cases of secondary syphilis which are met with in the present day to that practice. He points out the characteristic appearances of acute, chronic, sloughing, and phagedænic bubo, to distinguish them from creeping bubo. He describes this bubonic ulceration as presenting a yellowish colour, with inverted, overlapping, hard, corrugated, whitish edges. As a general rule, he says it does not occur if the primary symptoms are *judiciously* treated with mercury; that it occurs, in some cases, after the original chancre has healed; that it is in such cases that a correct diagnosis is most important; that it is comparatively easily arrested if it is combated with mercury in the onset, but excessively obstinate if it obtains any size; that mercury should be administered by inunction, unadulterated with stimulants and tonics; that the cases which are not benefited by mercury are the exception to the rule, and are very few in number; and that mercury is the most powerful instrument we possess to arrest the disease. He related and produced drawings of nine cases—five to illustrate the extreme obstinacy of the disease, and four to show the curative power of mercury, administered decidedly in its early stage.

Mr. Acton inquired of Mr. Solly if he had found the mercurial treatment invariably successful: if he (Mr. Acton) might judge by the paper, many parts of which he had very imperfectly understood, in consequence of the cases being only partially read, he gathered that the treatment had frequently failed. On how many cases had Mr. Solly's conclusions been founded—did they amount to five, twenty, or fifty? He was induced to ask these questions, because his own experience led him to think that any one form of treatment was inapplicable to all cases. He had seen one and all means fail—he had seen a plan succeed to-day and fail to-morrow: a patient might leave a hospital uncured in spite of all local and general treatment, return again, and get well under a plan of treatment which had recently failed to do any good. The true form of ulceration which he (Mr. Acton) called serpiginous, was not confined to buboes; he had met with it on all parts of the body as a consequence of inoculation, where it presented the same indisposition to heal. He should hail with satisfaction any certain plan of cure, particularly as the experience of all surgeons conversant with the treatment of venereal diseases proved the obstinacy of this ulcer, which would often baffle the experience of the best practitioners, and yet often get well under the simplest plan of treatment.

Mr. Solly said that the limits of a paper did not enable him to detail all the cases of this disease he had attended. He might answer Mr. Acton, however, by saying, that in all the cases in which he had used mercury alone, and that steadily, it had always been effective in curing the disease. Early in practice he had failed to relieve the patient, in consequence of combining a stimulant plan with the mercurial, and, in some cases, the iodide of potassium with sarsaparilla. But in no case in which he had used mercury alone, either by inunction, internally, or otherwise, had it failed. The cases which did not succeed were those in which the mercury was interfered with.

Mr. Bransby Cooper did not think with the author that the disease he had described was a specific affection resulting from a specific sore. He believed, on the contrary, that the disease was the result of some peculiarity of constitution. If mercury cured it alone, he would inquire what was the peculiarity of the primary syphilitic sore? When a patient was admitted into Guy's Hospital suffering from a disease similar to that delineated in the drawings before the Society, he kept the parts perfectly quiet by means of one of Dessault's splints, and administered bark with some mineral acid internally, and the patient got well without any mercury at all.

Mr. Lloyd observed that his experience coincided with that of Mr. Cooper. He believed that the ulceration in question followed primary sores of various kinds, the secondary sore forming no kind of indication of the nature of the primary ulceration. In primary sores we were guided by some well-defined rules, and found that one got well under one kind of treatment, and one under another; it was not so, however, in the sores described by Mr. Solly, for in these no kind of treatment could be said to be the proper one, for that which cured one case failed in another precisely similar. He had in the course of his practice seen such form of ulceration in both the husband and the wife; in one a certain mode of treatment succeeded, but failed in the other until the constitution itself was improved. Cases occurred in which mercury did positive harm, and patients were saved only by change of air, and the administration of sarsaparilla, &c. He detailed at some length the case of a man in St. Bartholomew's Hospital who was afflicted with this form of ulceration to a most remarkable extent; he was induced to try the extract of conium in five-grain doses three times a day. This was increased until the man took as much as seven drachms a day, and, in all, fifty-six ounces. He got well.

Mr. **Macilwain** characterised the treatment pursued by Mr. Solly as a dangerous kind of practice, more particularly in young surgeons. He agreed with the two last speakers, that these ulcerations might or might not be connected with primary sores. In some of these cases the specific action of mercury did good, in others it was useful as an alterative, and in others no treatment of any particular kind would cure. It depended on a peculiarity of constitution sometimes connected with scrofula. The treatment must vary with the constitution. Improvement of the general health, and perfect quietude of the parts, were the only indications for cure.

Mr. **Coulson** characterised the cases detailed as instances of secondary syphilitic ulceration. He objected to the term bubo, inasmuch as the disease was not confined to the groin, but extended to the back and other parts; that it commenced in the cellular tissue and skin, and not in the gland. Does it not depend on a peculiarity of constitution? In the early stages of this affection, the only way of curing it was, in the words of Mr. Pearson, "to carry the disease into the gland itself by means of the potassa fusa:" this step arrested the disease. If you found the disease of larger extent, and deeper seated, then paring the edges, and dressing the incised surface with an ointment containing protochloride of iron, was of great benefit. Mercury in some cases did good, in others not; but provided the constitution was not impaired, small doses of mercury, as a general rule, were advisable. If the constitution were bad, the mercury did harm, and it was best to let the ulceration go on for a time.

Mr. **Chalk** had seen a case of a most extensive ulceration similar to that detailed. He had employed almost every kind of local application, but the most successful one was an ointment consisting of five grains of ioduret of mercury to an ounce of spermaceti ointment, spread on the wounds, and the edges compressed by strapping. This, with the use of bark, wine, and opiates, soon effected a cure.

Mr. B. **Cooper** agreed with Mr. Coulson as to the tissues affected in this disease, and eulogized the form of application used by Mr. Chalk. He thought the nitric acid, however, preferable to the caustic potash mentioned by Mr. Coulson. He believed all the cases mentioned by Mr. Solly were dependent on peculiarity of constitution. The fact of mercury doing good did not prove the cases to be syphilitic, as mercury was beneficial in other cases.

An Extraordinary Case of Injury within the Uterus, with partial reparation before birth. By John Jones, M.R.C.S.E., Dalston. [Communicated by Dr. Pereira.]

Mrs. B——, of Dalston, was attended by the author in April last, in her first confinement. She had a quick labour, and bore an average-sized male child. A few minutes after the birth, his attention was directed to the following appearance by the nurse:—An open wound extended from the third dorsal vertebra, across the scapula, along the back part of the humerus, to within an inch of the elbow. The existing condition of the wound at the time of birth was illustrated by a drawing, which showed that a considerable portion of the wound was already healed,—a part of the cicatrix seeming to indicate that there had been ulceration of the edges of the wound prior to the healing by granulation. The edges of the wound were jagged, and at the spinal termination appeared bifurcated. In speculating upon the probable causes of this singular injury, the author classes his queries under four heads—viz. Could a blow produce it? Was it the funis? Was it by a sudden and violent contraction of the uterus? or, lastly, May it not be ascribed to an accident which the mother had about six weeks before delivery? The author considers that he is justified in concluding that the last mentioned was the efficient cause. The nature of the accident was this:—The patient was running down stairs in a hurry, when she trod upon a cat, and to save herself, made a spring of five or six steps at once, alighting on her feet. This was succeeded by faintness at the time, and a sanguineous discharge from the vagina on the following day, which, however, soon disappeared. The author states that this large wound was quite healed at the expiration of five weeks; and concludes his paper by directing attention to the importance of the case in a medico-legal point of view.

PATHOLOGICAL SOCIETY OF LONDON.*

C. **Aston Key**, Esq., in the Chair.

Mr. Avery exhibited a specimen of

Extensive Necrosis of the Tibia.

A man, æt. 50, of pale, sallow, unhealthy appearance, whilst kneeling at some mechanical employment, felt he had hurt himself very much immediately below the knee. The part swelled greatly, became very red and exquisitely painful, and he came to the out-patients' room at the Charing Cross Hospital. There was very evident fluctuation, which appeared to arise from fluid distending the bursa over the ligamentum patellæ. A grooved needle evacuated an ounce and a half or two ounces of clear straw-coloured fluid. He would not stop in the hospital, but applied leeches, lotions, &c., and rested in bed at his own house. He returned two days after, and was admitted on August 22, 1848. The whole front of the leg was of a deep red colour, swollen, tense, and very painful. Leeches, fomentations, and large poultices were used, and the limb placed in an elevated position. It was necessary on the second day following to make a free incision into the centre of the inflamed part, which gave vent to a considerable quantity of purulent matter, and gave him great ease. Everything went on satisfactorily for about three weeks, and the wound had nearly healed, when he was suddenly attacked with erysipelas of the leg, accompanied with great constitutional disturbance. Several incisions were necessary. He got the better of this attack, and was again tolerably recovered, and in about three weeks or a month had regained his former condition, when he had another and most severe attack of erysipelas, which extended up the thigh, and appeared in different parts of the body, and very nearly terminated fatally. He, however, again recovered slowly; and there remained only three fistulous openings in front of the tibia about an inch and a half or two inches apart, through each of which a probe reached the exposed bone. The probe passed from one opening to the other, touching the bare tibia all the way, and also extended on each side in different directions, and to a considerable extent. As he was now, three months from the commencement, in a tolerably good state of health, and fearing another attack of erysipelas would certainly carry him off, and having no hopes that, with a broken-down constitution like his, and at his age, so large a portion as at least two-thirds of the whole shaft of the tibia would be removed and repaired in anything like reasonable time, if at all,—amputation was proposed and performed above the knee on the 22d November, three months after his admission.

The periosteum, as seen in the preparation, was separated from the bone to a very great extent by purulent matter; in other parts it was easily separated by slight force, and carried with it a layer of firm new bone. It was not easy to decide whether this new bone was deposited on the inside of the periosteum, or whether it was situated in the texture of the latter: in some parts the former appeared to be the case; in other parts the latter. The contents of nearly the whole of the medullary canal were destroyed, and in the recent state the healthy structure of the cancellated parts of the epiphyses could be clearly distinguished from the dead white, slightly smoky colour of the necrosed bone, particularly at the lower end of the tibia: at the upper epiphysis, on the contrary, a good deal of the cancellous structure was discoloured. It is just three weeks since the amputation. The stump had done remarkably well, the integuments having nearly healed by the first intention; and only a small opening at its very extremity existing. He was greatly recovered in health, but the stump was very tender, and there was a feeling of considerable enlargement about the femur; and this, contrasted with the quiet appearance of the exterior of the flaps, produced some apprehension of necrosis of that bone.

Mr. Nathaniel Ward exhibited, for Mr Coward, of Islington, a specimen of

Perforating Ulcer of the Stomach,

from a female, æt. 19, of an atonic, cachectic habit, who had been three months in Mr. Coward's service as nurse-maid.

About four years since she drank a glass of cold water whilst perspiring freely, and since that time had been subject to frequent pains in the stomach.

Her appetite was capricious, and frequently after eating heartily of bread and cheese (a favourite diet) she would experience pain in the stomach, which would be relieved by vomiting.

On Friday last, the 15th, at 6 P.M., she was suddenly seized with acute pain over the whole of the lower region of the abdomen, attended with a disposition to vomiting. The tongue was furred, but moist;

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* In the details of Mr. Solly's case, in the Gazette, Dec. 24, it should have been stated that the "wound had healed in twenty-four hours without constitutional or local disturbance, perfect movement of the elbow having resulted in about ten days," instead of "the wound had healed in ten days," as there reported.

pulse 36, weak and compressible; bowels constipated. The catamenia were expected.

10 A.M. on the next morning she died. Collapse, followed in several hours by symptoms of slight peritoneal inflammation, supervened, and she sank sixteen hours after the commencement of the attack.

On opening the abdomen, there were found about three quarts of fluid, like badly-mixed pea-soup, but there did not appear any evidence of peritoneal inflammation, with the exception of some layers of recent lymph on the front of the stomach. This organ was collapsed, and on its anterior wall, at the junction of the upper with the lower two-thirds, about one-fourth inch to the left of the oesophageal extremity, was observed a clean circular aperture, about the size of the open end of a common pencil case. Through this opening the contents of the stomach had oozed into the abdominal cavity, and it formed the anterior extremity of an ulcer, of the size of a shilling, and which had involved the mucous and muscular tunics. On the opposite wall of the stomach existed another ulcer, a little to the right, and somewhat below the level of the above, and rather larger than it, of old standing, and of which the exposed anterior aspect of the pancreas formed the posterior wall.

Also, for Dr. SUTHERLAND, a

Specimen of fibrous tumors of the uterus,

from a woman, æt. 42, unmarried, who had been affected with chronic mania, and had died from pulmonary apoplexy, followed by pneumonia, the mitral orifice having become so contracted as barely to admit of the introduction of the tip of the little finger. The uterus, the neck of which was more elongated than natural, and the cavity much diminished in size, was studded over with eight or nine spheroidal, dense, fibrous tumors, the largest being about the size of a walnut, the smallest of a marble. They grated on section, and had a somewhat areolar arrangement, the spaces being occupied by soft fibrinous deposit. On examination by the microscope, they were found composed of fibrous tissue, in different stages of development, and arranged in laminæ intersecting each other, so as to leave larger and smaller intervening spaces. Occupying the upper and inner part of the left thigh, three inches below Poupart's ligament, was a tumor of the same kind, equal in size to a small cocoa-nut, connected only with the skin, so that it could be removed without injury to the fascia lata. The saphena vein ran immediately behind it. The inguinal and abdominal glands were unaffected. It was worthy of remark, that the brain in this case was much harder than natural, and the superficial aspect had a remarkable pearly, glistening appearance, which was particularly evident, also, in the different nerves at the base of the brain, especially the olfactory and optic.

Dr. BENCE JONES exhibited a specimen of

Epithelial growth from the vocal chords.

A fat, red-faced boy, æt. 4, was admitted Oct. 6, 1847, into St. George's Hospital. He had loud, noisy, croupy breathing, and could only speak in a whisper, being almost choked sometimes. The tonsils on both sides were much enlarged, but not highly vascular. One of his relations stated that he had had this loud breathing for a year; another, that he had always had it. Coarse moist sounds at the upper part of the chest, on the left side. The tongue was furred; the bowels confined. Tincture of iodine was applied to the tonsils. Five grains of grey powder every night, and saline aperients. On the 11th he was transferred to Mr. Tatum for the removal of the tonsils. After this he became weak, but had no actual paroxysms of suffocation, though on two or three occasions the lips were observed to be bluish. Inspiration was constantly performed with a noise, and with slight effort; and at times, and during sleep especially, it was stridulous.

The death was gradual, a month after his admission, and not marked by symptoms of suffocation.

Post-mortem 54 hours after death.—Body in good condition; mucous membrane of the fauces congested, and much purulent mucus adhering to it; submucous cellular tissue of epiglottis and arytæno-epiglottidean folds slightly infiltrated with serum, especially the latter part, giving a thickened appearance. On looking down into the glottis, its opening was seen blocked up by growths of a white colour. Obstruction to the passage arose from some distinct warty growths, taking their origin chiefly from the inferior chord of each side; some very small ones from the upper chord of the right side. They projected upwards sufficiently to meet each other, and formed a most effectual obstruction, arising from several roots of a white colour.

The mucous membrane of the trachea, &c., was much inflamed, and loaded with tenacious muco-purulent fluid. Surface of the lungs peculiarly light-coloured; structure very highly emphysematous; back parts congested, and the back and lower part of the right lung had some small patches of hepatisation, one of which was in a state of purulent infiltration; other viscera healthy.

The growth, with the microscope, was found to consist of epithelium, with a small quantity of fibrinous and granular matter.

Mr. Critchett exhibited

Two large Bursal Tumors removed from the anterior surface of the patella of a female aged 40.

Eight years ago she had inflammation, with effusion in the bursa in this situation, for which she never used treatment of any kind. One of the tumors had become perfectly solid, and in the other the external cyst was enormously thick, and in the centre a kind of cellular arrangement, filled with serum. The structure had been examined by Dr. Letheby, under the microscope, and the arrangement was found analogous to cartilage, with here and there traces of ossific deposit. The tumors were readily dissected out: in one the parts had united by the first intention; in the other there was some suppuration, but was going on favourably. With regard to the propriety of removing such tumors, it seemed rather a question to be decided by the patient. Mr. Critchett believed it was incurable by any other means, and if it proved a serious source of inconvenience to the patient, it might be dissected out as safely as any other tumor.

Mr. Toynbee exhibited a specimen of

Hydatid Cyst, situated in the middle Cerebral Fossa, beneath the dura mater.

This specimen was taken from a woman, æt. 48, who died of Bright's disease. The cyst was the size of a large pea, and placed on the inner surface of the squamous portion of the temporal bone, immediately above the articular fossa, for the condyloid process of the lower jaw. It projected upwards so as to elevate the dura mater, and it was partially buried in the substance of the bone.

Dr. Wardell exhibited a specimen of

Large Hæmatocele, connected with the left Kidney,

from an emaciated woman, æt. 51. The symptoms during life had been very equivocal. A tumor, the nature of which could not be made out, was found extending from the left iliac fossa to the left hypochondrium, and as far inwards as the median line, the heart being pushed towards the right side, and the left side of the chest being somewhat protruded.

The renal secretion had been correct.

On the post-mortem examination, the left kidney was found considerably diseased, the superior portion of the capsule having expanded so as to become lost in the walls of a large tumor of a somewhat aneurismal character; and the appearance of the upper part of the kidney was such as to lead to the inference that it had been originally lacerated.

Correspondence.

ON SANGUINEOUS PERSPIRATION.

Sir,—A subject, about which there has been much doubt in some minds, has been brought before the notice of your readers, in an extract from Casper's Wochenschrift, in your journal of December 3. I refer to an article by Dr. Schneider, on sanguineous perspiration. The Dr. there states, that he has several times observed the phenomenon, and mentions two cases which he himself saw, and quotes a remarkable one from Paulini. As it is a subject full of interest, both on account of the rarity of its occurrence, and from the fact that it took place during the agony of our Saviour in the garden of Gethsemane, your readers may be glad to know that, in an elaborate work published by Dr. Stroud, in 1847, on the "Physical Cause of the Death of Christ," many similar cases are recorded of the occasional supervention of bloody sweat on terror and other strong mental impressions. The following is an extract from his work, beginning at page 85:—

"From the foregoing testimonies of eminent authors, to which many more might be added, it thus appears that one of the principal corporeal effects of the exciting passions is palpitation, or vehement action of the heart; and it will now be shown that, when this action is intense, it produces bloody sweat, dilatation, and ultimately rupture of the heart. Of the latter affection (bloody sweat), several instances are related in the German Ephemerides, wherein Kannegiesser remarks—'Violent mental excitement, whether occasioned by uncontrollable anger or vehement joy, and in like manner sudden terror, or intense fear, forces out a sweat, accompanied with signs either of anxiety or hilarity.'" After ascribing this sweat to the unequal constriction of some vessels, and dilatation of others, he further observes—"If the mind is seized with a sudden fear of death, the sweat, owing to the excessive degree of constriction, often becomes bloody." The eminent French historian, De Thou, mentions the case of "an Italian officer who commanded at Monte-maro, a fortress of Piedmont, during the warfare in 1552, between Henry II. of France, and the Emperor Charles V. This officer having been treacherously seized by order of the hostile general, and threatened with public execution unless he surrendered the place, was so agitated at the prospect of an ignominious death, that he sweated blood from every part of his body." The same writer relates a similar occurrence in the person of a young Florentine at Rome, unjustly put to death by order of Pope Sixtus V., in the beginning of his reign, and concludes the narrative as follows:—"When the youth was led forth to execution, he excited the commiseration of many, and through excess of grief, was observed to shed bloody tears, and to discharge blood instead of sweat from his whole body, a circumstance which many regarded as a certain proof, that nature condemned the severity of a sentence so cruelly hastened, and invoked vengeance against the magistrate himself, as therein guilty of murder." Amongst several other examples given in the Ephemerides, of bloody tears and bloody sweat occasioned by extreme fear, more especially the fear of death, may be mentioned that of "a young boy who, having taken part in a crime for which two of his elder brothers were hanged, was exposed to public view under the gallows on which they were executed, and was thereupon observed to sweat blood from his whole body." In his Commentaries on the Four Gospels, Maldonado refers to "a robust and healthy man at Paris, who, on hearing sentence of death passed on him, was covered with a bloody sweat." Zacchias mentions a young man who was similarly affected on being condemned to the flames. Schenck cites from a martyrology the case of "a nun who fell into the hands of soldiers; and, on seeing herself encompassed with swords and daggers, threatening instant death, was so terrified and agitated, that she discharged blood from every part of her body, and died of hæmorrhage in the sight of her assailants." And Tissot reports from a respectable journal that of "a sailor who was so alarmed by a storm, that through fear he fell down, and his face sweated blood, which, during the whole continuance of the storm, returned like ordinary sweat as fast as it was wiped away." In an appendix at the end of the volume, Dr. Stroud has given full reports of these and other cases in the words of the original authors. The last case, that of Tissot, seems to be the same as that recorded by Paulini. A perusal of Dr. Stroud's work would well repay any one desirous of becoming acquainted with the effects produced by the various emotions on the heart and circulating organs; and will prove how medical knowledge, carefully acquired and judiciously used, convincingly demonstrates the truth of, as well as throws fresh light on, obscure parts of the scriptural narrative of Christ's death.

I shall, perhaps, be allowed to close this letter by another extract, in which Dr. Stroud lays before his readers a summary of the chief points he expects to demonstrate, in which I think he has succeeded; and shall be glad if I induce any one to look into a work full of various information, and for which Dr. Stroud deserves well of the profession:—

"In the preceding chapter it is presumed to have been demonstrated that neither the ordinary sufferings of crucifixion, nor the wound inflicted by the soldier's spear, nor an unusual degree of weakness, nor the interposition of supernatural influence, was the immediate cause of the Saviour's death...... What, then, it will be asked, was the real cause?.........It will be the object of the ensuing observations to shew that the power in which these characters perfectly and exclusively concurred, was *agony of mind, producing rupture of the heart*. To establish this conclusion, numerous details will be adduced; but the argument itself is short and simple. In the garden of Gethsemane, Christ endured mental agony so intense that, had it not been limited by divine interposition, it would probably have destroyed his life without the aid of any other sufferings; but, having been thus mitigated, its effects were confined to violent palpitation of the heart, accompanied with bloody sweat. On the cross this agony was renewed in conjunction with the ordinary sufferings incidental to that mode of punishment; and, having at this time been allowed to proceed to its utmost extremity without restraint, occasioned sudden death by rupture of the heart, intimated by a discharge of blood and water (clot and serum) from his side when it was afterwards pierced with a spear." (pp. 73-4).—I am, sir,

Your obedient servant,

J. H.

Liverpool, Dec. 7, 1848.

THE POOR-LAW MEDICAL CONVENTION—WANT OF SUPPORT BY THE PROFESSION.

Sir,—Some little time back, a letter appeared in the *Times*, from a physician, denouncing in no measured terms his supposed connection with the Poor-Law Medical Staff. Short, brief, and cutting, were the words he wrote: they were full of manly sentiment—a sentiment which every one of us must appreciate from the inmost recesses of his heart. We do indeed feel the truthfulness of his satire: we feel, and have felt for many a long day, the injustice of our position towards the poor: we know the recompense we receive is incommensurate with the duties we perform; so in a legitimate straightforward manner our efforts are being used to place before the public the necessity of a change, hitherto unsuccessful. We still retain our appointments under the Poor-Law, nevertheless, from a firm conviction that better days are coming, in which the opprobrium of supplying physic and advice at three-farthings a bottle shall no longer attach itself to us. But, sir, how comes it that the

Committee of the Poor-law Convention receive no better support in their steady perseverance to force upon our rulers a consideration of this important subject, from the profession generally? How comes it that the finances committed to their charge to carry on the agitation have never exceeded, seldom come up to, the amount required for ordinary contingent expenses; and that an appeal is necessary again to raise the requisite funds to carry on the noble design of ameliorating the distress which a niggardly system must cause to the poor who dwell in every nook and corner of old England? It comes from this, and these causes. Some Union officers are frightened to act in the matter; but the influence of these Boards of Guardians should be used against their having annual appointments, to bowl them out of their present office, and so cause a slur to be fixed upon their professional character. These are a numerous class, loaded with onerous duties, working in wide and extensive districts, on bleak downs, the confines of the sea, or some malarious and pestilential swamp. Their energies are devoted to their calling, and they wish not to depreciate, by agitation or a contribution to it, those means of doing good to the poor which they can secure only by being on the most friendly terms with the local Board or their parishioners. Such are absentees from choice. Young men are appointed to Unions for specific periods; and in these, perhaps, greater hardships are endured by them than where the districts are given with the license to practise generally: the limit of their contract is a cause for not entering an appearance against the system; but how fully alive are such to the fact that the system is raised upon the worst and most vicious foundation! For the salary of shopmen, is the intellect taxed from the rising to the setting of the sun; for wages which a gentleman's butler would spurn, disease is combated in every form, however pestilential it may be; and the taste of the occupation becomes so nauseous before the expiration of their term of servitude, they vow to abandon for ever the thankless task, and care not they about raising the position of the foolish men who succeed them. A third class accept, abuse, and prostitute the duties of the office of Union surgeon to their own ends: they truckle to their masters; they care not for the misery they see around them: they are poor, ill-mannered, thoughtless; and if ten thousand paupers died unrelieved, through the defect of the present law, they would raise no cry, support no movement, which is calculated to make him and the system work better. Will such contribute to the funds of the Committee? No. Others, too, there are holding on these offices, so poor that they cannot give a son; for wife, children, horse, and drugs, require to be maintained and found from a fund which will not, properly speaking, do either, if the pauper gets his due.

The Committee have facts before them now which warrant them in bringing the case more fully before the public, and laying before Parliament the abominations of the system practised under the name of Poor-Law medical relief; and we urge upon every member of the profession, in the event of a general meeting taking place in London, to attend. We urge upon every one an active co-operation; for the principle involved is one not of self, but of humanity. Men must not be doctored worse than brute beasts. Everything which tends to encourage such a state of things must be annihilated, rooted out, exposed to the full gaze of light. Disease must not run on to death because it afflicts a pauper: the State should be compelled to remedy the evil; and at the ensuing meeting of the Convention, we are glad to see not merely the profession, but members of Parliament, are invited to be present. Let each Union officer personally confer with his provincial member of the House, and let every exertion be made to excite Government to equalise the payment of Union medical officers, and to compel Boards of Guardians to raise the standard of remuneration on these contracts, which will recompense medical men as other men are. And may this meeting prosper in its efforts to blot out from England's escutcheon that foul stain, the system of Poor-Law Medical Relief as it exists in 1848.—I remain, sir,

Yours truly,

Alfred Ebsworth.

MEDICAL CERTIFICATES OF THE CAUSES OF DEATH.

The city of New York requires all physicians to report for registration the cause of death. The *Buffalo Medical Journal* contains the following interesting report of a case:—"This woman was died, because she did die, and she was die of vickness, and she could not live." (Signed) "Dr. Vanderhiden." This is rich, exceedingly so; but we think we an match it by the following most laconic post-mortem certificate to the coroner of this district, at an inquest:—"I hereby certify, that at the request of the Cornur and Jury sworn, I examined the body of the late John Woods, and then decided the result of the examination." (Signed) "R. B—y, Surgeon, Sherrington, 14th August, 1844."—*British American Journal*, December 1848.

Medical Intelligence.

THE CHOLERA IN GLASGOW.

It is painful to report that the disease has as yet shown no symptoms of abatement in this city; on the contrary, since our last its ravages have been as fearful as during the previous week. Many estimable citizens have fallen victims to this scourge. We have heard that several medical gentlemen are not in the habit of reporting cases which occur in their private practice, so that the published returns must not be held as exhibiting the full extent of the epidemic. The medical staff in attendance on the poor has been greatly enlarged by calling in the aid of advanced medical students; and on Thursday a new hospital was opened for the treatment of cholera patients at the corner of North Woodside, opposite Phillip's Quarry. Additional dispensaries have been opened in various districts of the city. Arrangements have also been made by which every house in the various districts—especially those in poor and wretched localities—will be visited at least once daily, and inquiries made into the state of health of all the residents. A vast number of cases have already been discovered and treated in this way, which, undoubtedly, would have been allowed formerly to take their course without any medical aid being asked.—*Scottish Times* of Dec. 30th.

THE CHOLERA IN FRANCE.

This disease has appeared in several villages in the northern provinces of France. At Bourbourg (Nord) there had been 76 cases and 52 deaths!

THE CHOLERA IN THE UNITED STATES.

The latest advices from the United States announce that one or two fatal cases of cholera had appeared at New York, and it was feared that the epidemic was spreading. It had also appeared at New Orleans, brought there by the arrival of the bark Lucia Field, from Bremen. Twenty or more passengers died with the cholera, or from black vomit, on the passage. At Washington it was also reported to have appeared.

THE CHOLERA IN RUSSIA.

The cholera still prevails in various parts of the Russian empire. Its attacks are, however, less numerous and less fatal. In Moscow, between the 15th and 21st November, there were seven cases and four deaths. In Poland, up to the 11th of December, the cases had amounted to 50,170, and the deaths to 23,239.

THE CHOLERA IN BELGIUM.

The Asiatic cholera broke out at Liege on the 11th December. Seven deaths had occurred. It has been prevailing for some weeks at Antwerp. The first case occurred in a sailor, on board of a Rotterdam steamboat. The packet reached Antwerp from Rotterdam on the 28th October, and on the following day the first symptoms of the disease appeared in this man. He died the same day. His place on board the packet was supplied by a man from Antwerp, who, after three or four voyages, was seized with the cholera, but recovered. On the 13th Nov., the Countess X., a stranger, on, her journey through Antwerp, was seized with cholera, and died on the 16th. Dr. R., who attended this lady, was severely attacked with cholera on the night of the 19th Nov., but recovered. His constitution had been weakened by over-exertion. After this, cases occurred daily, and on the 20th December these amounted to 57, of which 32 had proved fatal. Some cases have also occurred at Mo snand Quilorain.

THE CHOLERA IN SYRIA.

The cholera still prevails in St. Jean d'Acre, Alexandretta, Latakia, and Tripoli, but with less intensity.

TYPHUS FEVER IN FRANCE.

A letter from Roubaix, in the department of the North, states that the typhus fever is raging there with unusual severity. It was expected that the cold, which was rather severe there last week, would improve the sanitary condition of the town, but it produced a contrary effect. The town presents a most melancholy appearance; nothing is to be seen but hearses conveying the victims of the prevailing epidemic to their place of rest.

THE NEW PRESIDENT OF THE POOR LAW BOARD.

The Queen has been pleased to direct letters patent to be passed under the Great Seal of the United Kingdom for nominating, constituting, and appointing Matthew Talbot Baines, Esq., to be Poor Law Commissioner for England, in the room of Charles Buller, Esq., deceased.

RE-OPENING OF THE MIDDLESEX HOSPITAL.

On Monday last, a special court of Governors was held at this hospital to receive a report of the improvements, and to celebrate the opening of the new ward, erected under a bequest of £10,000 from Lady Murray. Four new wards have been opened, called "Sir John Murray," "Male Cancer," "Uterine," and "Forbes Wards;" and accommodation is now provided for fifty-five in-patients, in addition to the number formerly received (230). Great improvements have also been made in the ventilation and supply of water to the establishment, and the various offices connected with the institution have also been enlarged and rendered more commodious. The Governors and visitors expressed themselves satisfied with the new arrangements.

THE MEDICAL PROFESSION IN PARIS.

It appears that the number of Doctors of Medicine in Paris amounts to 1389, while in *1847* it was 1442. There has therefore been a decrease of 53. Of the 1442 in the general list for 1847, 56 died, and 112 quitted Paris. Of the 1389 now returned in the list, there are 114 new names. Nine of the Parisian medical body are representatives of the people in the National Assembly; Drs. Bixio, Buchez, Dezeimeris, Gerdy, Lelut, Maissiat, Recurt, Trélat, Trousseau. There are 398 who are members of the Legion of Honour—namely, 7 commanders, 50 officers, and 341 knights.

MEDICAL LEGISLATION IN THE LAST SESSION OF PARLIAMENT.

In the last session of Parliament (11th, and 11th and 12th Victoria), no fewer than 133 acts received the Royal Assent. Out of this large number, there are only three which have any relation to the medical profession. 1st, The 11th and 12th Victoria, Chapter 63, commonly called the Public Health Act, but now, according to the interpretation of *Lord Carlisle*, better known as the Public "Works" Act. 2nd, The 11th and 12th Victoria, Chapter 123, the Nuisances removal and contagious diseases prevention act, which imposes additional duties on Poor Law medical officers, without remuneration. 3rd, The 11th and 12th Victoria, Chap. 121, an act to make provision for the treatment of poor persons afflicted with fever in Ireland.

Such was the amount of medical legislation for 1848. The shortcomings are fully explained when it is considered that there is only *one medical* member in an assembly of 658! We believe that the lawyers form at the least one-sixth of the whole House of Commons.

ANOTHER DEATH FROM CHLOROFORM.

The *Glasgow Herald* states that recently a young gentleman returned from Australia to visit his relatives in the neighbourhood of Govan, but before leaving the colony he met with a slight accident in the foot, which being, perhaps, neglected during the passage home, caused the great-toe nail to grow into the flesh. To remove the pain and inconvenience, the gentleman resolved to submit to an operation, which a respectable surgeon in Govan was employed to perform on Tuesday last. Preparatory to doing so, the surgeon resolved to make use of chloroform; but the patient, after inhaling the gas, almost instantly expired. An investigation of the affair is in progress.

POISONING BY MISTAKE—DEATH FROM AN OVERDOSE OF CROTON OIL.

An inquest was held, on the 23d ult., at Louth, on the body of Mrs. Elizabeth Harold, widow of Mr. S. Harold, late of Utterby House, and mother of the lady of the Rev. H. B. Benson, residing at the above mansion. The following circumstances were detailed by Mr. Trought, the family surgeon, who said he had been called in on Tuesday morning by Mrs. Harold for a complaint of the catarrhal kind, to which the deceased had been subject, and for the alleviation and removal of which he had been employed. Mr. Trought applied the usual remedies. On Wednesday night the deponent saw his patient again, and on leaving the house he specially informed the servant as to the nature of the medicine he was about to send, namely, a sedative cough mixture, to be taken as directed on the bottle, two tablespoonfuls at a time, and an embrocation (composed of croton oil and other drugs), with which she was to rub the chest of her mistress; after which she was to be particular in washing her hands, as the embrocation was made up of ingredients of a poisonous and dangerous nature. The medicaments were sent and applied. At 10 o'clock at night, Mrs. Harold, having taken about half an hour's repose, suddenly awoke in a violent fit of coughing, and hastily calling the girl to give her a teaspoonful of the cough mixture, she, in her hurry, seized hold of the wrong bottle, and, pouring out a teaspoonful of the embrocation into a wine-glass, gave it to the unfortunate deceased, who drank it, and instantly exclaimed, "How hot my throat is! surely you have not given me the wrong medicine?" The fatal mistake being discovered, Mr. Trought was directly sent for, who promptly attended, and lost not a moment in administering the necessary antidotes, which appeared to be successful. On Thursday and Friday Mrs. Harold seemed to be recovering, though the inevitably weakening effects of the poison in a person of her years (about 75) were apparent. On Saturday morning Mrs. Harold was seized with violent coughing, and died in convulsions. On the jury's questioning Mr. Trought as to his view of the true cause of Mrs. Harold's death, he stated that the poison accidentally taken and ejected by the emetic could not have been the direct cause of her dissolution, but indirectly he had no doubt it was. The maid (Lowry) who made the fatal mistake stated that she perfectly understood the directions given her by Mr. Trought. She remembered the caution given her on Wednesday night as to the dangerous nature of the embrocation. She could read the directions on the labels on both the bottles distinctly, but she could not account for the error she had made except by the hurry she was in at the time the mixture was called for. She had been up the whole of the preceding night, and in constant attendance on her mistress. There had not been the slightest disagreement between them. The jury gave as their verdict, "That the death of Mrs. Harold was accelerated by her accidentally taking the embrocation."

⁂ It is difficult to suggest any plan which will guard against mistakes depending upon the carelessness of nurses and attendants in administering medicines to patients. The above case shows that the plainest directions, written and verbal, will not suffice. A correspondent of this journal lately advised that all medicines for *external* use should be in a bottle of peculiar shape (flat), and the label of coloured paper. There is always considerable risk in putting embrocations into common glass phials, like those used for draughts.

THE EPIDEMIC DYSENTERY AT PENZANCE.

THE RIGHT TO PUBLISH MEDICAL NOTES AND OBSERVATIONS.

IN our last number we were compelled, in reference to a communication forwarded by Mr. R. Moyle, of Penzance, to make a charge against Mr. G. B. Childs, under the following circumstances:—Notes relating to an epidemic dysentery which Mr. Childs had not witnessed, were furnished to him at his own request. No authority was given to him to publish them. He was informed by the gentleman who supplied the notes, that he himself was about to publish his observations in one of the London journals; but Mr. Childs nevertheless persisted in allowing his copy of the notes to appear in the *Medical Times* of the 23d December, and thus anticipated by a week the publication of the original paper in the LONDON MEDICAL GAZETTE. Mr. G. B. Childs considers that great injustice has been done to him by the comments made on this proceeding, which, in our judgment, was contrary to all professional rules; and he has forwarded to us a long letter, which, while it offers no reply to any one of the above charges, contains a vituperative attack on Mr. Richard Moyle, to whose courtesy and great assistance he acknowledged himself only a week before, much indebted. We insert the only part of Mr. Childs' letter which bears upon the charge made against him:—

"From the tenor of Mr. Moyle's letter, I was satisfied, as would have been every honest man, that Mr. Moyle supplied me with the information fully cognizant of the use I was about to make of it. I wrote to Mr. M. a few days subsequently, thanking him for his letter, and stating at the same time that I had written my paper, and was about to publish it. Some days after, I received a letter from Mr. John Moyle, informing me that his father had written a paper also on the subject, and had sent it to one of the medical periodicals, but hoped "that it would not *clash* with mine." I immediately answered this communication, expressing my regret that I had not been made acquainted with this fact before, as my paper was in the hands of the Editor of the 'Medical Times.'"

We are not at liberty to publish Mr. Moyle's letter, but we may state, it is quite clear from it that Mr. Childs entirely misinterpreted the tenor of the letter referred to, if he supposed that he had permission to publish the information supplied to him; and had he asked permission of the Messrs. Moyle, as we think most medical men would have done under the circumstances, he would have discovered that he had made a mistake, and that neither Mr. R. Moyle, nor his son, was *cognizant*, as he assumes, of the use intended to be made of his notes. If, however, the case had rested here, we should probably have passed the matter over without remark. The publication of notes supplied by others should certainly not rest upon inferences, but upon a *plain* and *unambiguous permission* asked and obtained from the party supplying them; still an error may be committed unknowingly or unreflectingly: and in such a case it would not be fair to censure an individual for the publication. This case, however, as the facts are before us, stands in a very different light. Mr. Childs supplies us with no dates, and without these the extract from his letter would mislead readers into the supposition that he had had no opportunity of withdrawing his paper from the Medical Times. It is our duty to supply this omission. Mr. Childs' paper was not published in the Medical Times until the 23rd December, while we have the written evidence before us that Mr. Moyle had informed him of his intention to publish his own notes as early as the 10th December. Mr. Childs cannot, therefore, plead "the tenor" of Mr. Moyle junior's letter as a justification, since he had *thirteen* days to reflect whether he should or should not allow a copy of notes to appear in the Medical Times, when he was informed that the original paper had been already sent by the Messrs. Moyle for publication.

We will now put the case that Mr. Childs had supplied notes of private practice to the Messrs. Moyle. Let us suppose that they with eager haste, and without obtaining his permission, send them off for insertion in a medical journal; and although informed *thirteen days* previously, that he (Mr. Childs) had sent these identical notes for publication on his own account, yet they allow them to appear by anticipation in another journal. We make no doubt, that in such a case he would have considered himself very unjustly treated. He would, we believe, have now heartily joined with us in the opinion, that a professional man has no right to publish notes except by the express permission of those who supply them; and that, when not having obtained this permission, he is further informed that the party *supplying* them intends to publish on his own account, it is his duty to withdraw them, even at the eleventh hour. We do not expect to convince Mr. Childs that he is now in the wrong; but we have no doubt what the verdict of the profession would be. He and the Messrs. Moyle are equally strangers to us; and we consider that it would have been a dereliction of duty on our part, not to have commented on circumstances which tend to damage claims to originality, and to destroy confidence in professional correspondence. The facts which we have stated are in documents before us; and in our judgment they fully warrant the comments which we have made.

OBITUARY.

On the 29th ult., at No. 24, Artillery Place, Finsbury Square, Mr. William Martin, surgeon, R.N., in the 69th year of his age, much respected.

Selections from Journals.

THE SMART-WEED AS A REMEDY FOR MERCURIAL SALIVATION, AND APHTHOUS STOMATITIS. BY R. WILCOX, M.D., OF ELMIRA, NEW YORK.

I have frequently, during the past year, prescribed a decoction of the leaves of the herb, well known by all in this country, and familiarly denominated smart-weed, as a remedy in mercurial ptyalism, and also in that form of aphthous stomatitis which occurs during lactation; and the degree of satisfaction I have felt while using it, has only been equalled by my surprise.

The possibility that this plant might possess remedial powers for salivation, was suggested to my mind by the fact that farriers employed it with success to the cure of that disease of the salivary glands of the horse called slabbering; and being destitute so far as I then knew of any agent, which, if locally applied, would exert a decided curative effect, I resolved upon its trial the first opportunity. The opportunity soon presented itself. The remedy was used; and I was agreeably surprised when I saw every distressing and unpleasant symptom removed in twenty-four hours.

I have now employed it in about twenty cases of mild mercurial salivation, and have uniformly procured the same prompt and complete relief. I have tried its use in two of the severer forms, attended with numerous and deep ulcerations; these cases were much more comfortable, but not cured. The benefits I derived from it in salivation, induced me to make trial of it in the follicular stomatitis of nurses, which appears to be endemial to the valley of the Chemung River. (At least it is of much more frequent occurrence here, than at any location with which I am acquainted.) Within the last three months, I have prescribed its use in ten cases, and without an exception they have been speedily and entirely relieved.

I am not prepared to state what can be accomplished with it in those cases of aphthous stomatitis, connected with a tubercular state of the constitution, having yet had no such case; neither have I used it where the ulcerations were deep; in such cases, other remedies will doubtless be more effective. I suggest the remedy to my medical brethren for further trial, and if it shall prove in their hands to be worthy the recommendation I have given it, I shall ever feel myself abundantly rewarded. The manner in which I have used it is to take about an ounce of the dried leaves and tops. Water, one pint, boil twenty minutes, and strain. The mouth is washed with it every hour through the day.—*American Journal of Med. Sciences.*

ON THE DETECTION OF SULPHURETS OF ARSENIC.

M. Filhol, professor of chemistry and pharmacy at Toulouse, in the course of his investigations on the presence of arsenic in ferruginous deposits, finding reason to suppose that a sulphuret from a decomposed sulphate is often present, determined to ascertain the degree of the applicability of Marsh's test in the detection of arsenic in the form of sulphuret. As the result of his experiments, M. Filhol arrives at three conclusions. 1st, That the natural sulphurets of arsenic are, contrary to what has been asserted, susceptible of decomposition through Marsh's apparatus; 2ndly, that they are decomposed with extreme slowness—that the quantity of arsenic carried up by the hydrogen is too small to afford metallic stains—and that a very long time is required to obtain its evidence in metallic solutions; 3rdly, nascent hydrogen enters into combinations with the two elements of the sulphuret, producing hydrosulphuric acid and arseniuretted hydrogen.

These conclusions acquire considerable importance from their relation to inquiries as to the existence of arsenic in the earth of cemeteries, as they establish the possibility of its existence where it otherwise would have remained undetected.—*Journal de Chimie Médicale*, Oct. 1848. X

BOOKS & PERIODICALS RECEIVED

DURING THE WEEK.

Pereira's Materia Medica. Vol. I.

The London Journal of Medicine. No. 1, Jan. 1849.

Grant's Medical College Syllabus of Lectures on the Institutes of Medicine. By C. Morehead, M.D. India.

British American Journal. Dec. 1848.

British Record of Obstetric Medicine. Jan. 1849.

The British and Foreign Medico-Chirurgical Review. No. V. Jan. 1849.

The Half-yearly Abstract of the Medical Sciences. By Dr. W. H. Ranking. Vol. VIII. July—Dec. 1848.

Monthly Retrospect of the Medical Sciences. By Drs. Fleming and Gairdner. Feb. to Dec. 1848.

Pharmaceutical Journal. Dec. 1848.

Monthly Journal of the Medical Sciences. Jan. 1849, No. 31.

The Veterinary Record. Jan. 1849.

Edinburgh Medical and Surgical Journal. Jan. 1849.

Dissertation on Scientific Nomenclature. By R. G. Mayne, M.D.

Journal of Public Health. Jan. 1849.

A Sketch of a Popular and Novel Treatment of Diarrhoea, Dysentery, and English and Asiatic Cholera. By E. Skiers, M.D.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 29·94
" " " Thermometer[a] ...... 41·2
Self-registering do.[b] .... Max. 57·5 Min. 22·

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 0·44.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 1·4° above the mean of the month.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Dec. 30.

Births.		Deaths.		*Av. of* 5 *Aut.*	
Males....	733	Males....	709	Males....	581
Females..	725	Females..	694	Females..	573
	1458		1403		1154

Causes of Death.		Av. of 5 Aut.
All Causes	1403	1154
Specified Causes	1398	1149
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*..	308	270
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	57	53
3. Brain, Spinal Marrow, Nerves, and Senses	165	127
4. Heart and Bloodvessels	47	38
5. Lungs, and other Organs of Respiration	228	222
6. Stomach, Liver, and other Organs of Digestion	71	67
7. Diseases of the Kidneys, &c...	15	12
8. Childbirth, Diseases of the Uterus, &c.	15	14
9. Rheumatism, Diseases of the Bones, Joints, &c.	7	8
10. Skin, Cellular Tissue, &c.	1	2
11. Old Age..........................	59	64
12. Sudden deaths	37	12
13. Violence, Privation, Cold, and Intemperance	91	32

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	35	Paralysis	24
Measles	17	Convulsions	61
Scarlatina	94	Bronchitis	80
Hooping-cough ..	56	Pneumonia	120
Diarrhœa	30	Phthisis	144
Cholera	30	Dis. of Lungs, &c..	8
Typhus	71	Teething	9
Dropsy	20	Dis. of Stomach, &c.	8
		" Liver, &c...	21
Hydrocephalus....	30		
Apoplexy..........	46	Childbirth	10

Remarks.—The total number of deaths was 249 below the weekly autumnal average. See page 26.

NOTICES TO CORRESPONDENTS.

The communications of Drs. Milroy and Wells next week.

We have been compelled to postpone various original papers and letters.

Corrigenda.—In our last number, at page 1097, col. 1, eighth line from foot, for "centenarvian," read "centenarian."—P. 1101, col. 1, first line, for "excellect," read "excellent."

THE GENERAL INDEX.

We have to announce to our Subscribers that a General Index to the *first* 40 *Volumes* of the London Medical Gazette will, it is calculated, form a large Volume of about 700 pages. The cost of the Index Volume, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. Wilson and Ogilvy, 57, Skinner Street, will receive the Names of Subscribers.

Lectures.

LECTURES
ON
PRETERNATURAL AND COMPLEX PARTURITION.

By Edward W. Murphy, A.M. M.D.
Professor of Midwifery, University College, London.

Lecture VII.

UNAVOIDABLE HÆMORRHAGE.—(Continued.)

Extreme exhaustion—Artificial separation of the placenta—Evidence in support of this practice—Rigidity of the os uteri—Danger of turning in such cases—Treatment—Rules to be observed in cases—1. When no exhaustion has taken place; 2. In extreme exhaustion; 3. In rigidity of the os uteri. Post-partum hæmorrhages before the separation of the placenta—Causes—Uterine inertia—Irregular contraction—Morbid adhesion of the placenta—Hæmorrhages after the separation of the placenta—Case of plethora—of uterine inertia—of mismanagement after delivery.

Gentlemen,—In the preceding lecture we wished to point out to you the resources of Nature in arresting unavoidable hæmorrhage,—that her remedy consisted essentially in detaching the placenta from the surface of the uterus. We have given you reasons why we should not adopt this practice in all cases of placental presentation, and were considering how far this imitation of Nature might be applicable when the legitimate practice of turning the child could not safely be adopted.

Extreme exhaustion in the patient is one of these exceptions. We trust that we have given you sufficient proof that in such instances turning the child is particularly dangerous: we had also quoted some convincing examples to testify the powers of Nature in arresting hæmorrhage even in these unfavourable circumstances, although she sometimes failed in saving the patient. It now remains for us to determine whether artificial separation of the placenta may be safely adopted—that is, whether it will arrest or increase the flooding; because in such a hazardous emergency as this, the safety of the mother only must be consulted—the child is but a secondary object. I shall again bring before you the evidence of Dr. Waller, because he was "not an unconcerned spectator of the controversy which has of late been carried on regarding the mode to be adopted in the treatment of placenta prævia, but preferred delaying an opinion until he was enabled to form one from facts which had occurred under his own especial notice;" and further, because "he entered upon the inquiry with a strong prejudice against the new method, it being contrary to what he had been taught, and equally opposed to what he had been long teaching others, to suppose that it would be a safe practice to effect a complete separation of the placenta from the walls of the uterus whilst the fœtus was still within its cavity."* In Case 24, Mr. Doughty requested Dr. Waller's assistance in the early stage of the labour before serious exhaustion had come on......... The placenta was felt encircling the os uteri: a small portion was detached anteriorly, through which the funis had descended. The os uteri was considerably dilated; the undilated portion rather firm; bleeding was going on, but it was not excessive. "Prior to turning, I detached the placenta entirely from its connection with the uterus, for the purpose of ascertaining whether the hæmorrhage would be thereby increased. I thought this a favourable opportunity of testing Dr. Simpson's plan, knowing that, if alarming symptoms came on, I had the labour under my own control. No hæmorrhage followed the separation. The hand was carried forward, and the child extracted: although in a state of asphyxia, the ordinary means succeeded in restoring it. The mother had no bad symptom, recovering as quickly as she had been accustomed after an ordinary confinement."† In another case (27) of partial presentation, the uterus rigid, the os very partially open, there was considerable hæmorrhage. "As there was no possibility of turning when I (Dr. W.) first saw the patient, the placenta was detached, and dilatation waited for. No hæmorrhage occurred; and, in less than twelve hours afterwards, turning was had recourse to, and a dead child extracted."‡

I shall quote another testimony—that of Mr. Brown, of Kensal Green, who, "like the majority of his medical brethren, had a natural repugnance to desert old and well-established rules of practice for novel, and what might be considered dangerous, innovations." Mr. Brown was hastily summoned to a lady whom he had attended before "in a premature labour of her first child at the seventh month of gestation, and who, he understood, was now advanced to about the same period of this her second pregnancy." There was very considerable hæmorrhage; and "upon making an examination per vaginam, I (Mr. B.) ascer-

XLIII.—1102. Jan. 12, 1849.

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* Med. Times, Jan. 8, 1848, p. 233.
† Med. Times, Jan. 15, 1848, p. 257.
‡ Ibid.

tained that the flooding still continued, and resulted from nearly a complete presentation of the placenta over the os uteri. ... ... The os uteri was dilated to the size of a half-crown, but so extremely rigid that I could not insert two fingers within it, nor was there any probability of its yielding to any attempt at dilatation that could be safely applied. Under these circumstances, what plan was to be pursued? As it was impossible to turn (the usual course in these cases), from extreme rigidity of the os uteri, I proceeded to rupture the membranes at the anterior part, just under the arch of the pubis, where alone they could be felt, but this failed in arresting the hæmorrhage; for with every return of uterine action, the blood continued to pour forth with unabated violence. It became now plainly evident that the delivery must be brought about; and having been led to believe, from several circumstances which the patient described to me, that the fœtus was dead, I judged that this was a favourable opportunity of testing the correctness or the contrary of Dr. Simpson's views upon this subject. Accordingly, without the least difficulty, I with the forefinger of the right hand separated the entire placenta from the uterine surface, and almost immediately the hæmorrhage ceased."* For three hours afterwards no hæmorrhage occurred; a dead fœtus was expelled, and the patient recovered.

These cases are selected for the same reason as the former, because the impartiality of their evidence cannot be questioned. Similar instances are recorded by Messrs. Haughton, Everitt, Wales, and many other practitioners who were not the advocates of this practice; but if I were to appeal to those who are its supporters,—if I were to quote the experience of the late Mr. Kinder Wood, of Manchester, who, it now appears, had frequently adopted the practice of separating the placenta, although he did not publish his cases,—to Dr. Radford, who followed him successfully in the same course, —and especially to Professor Simpson, who has brought the whole question so ably before the profession;—if I were to bring forward their evidence in addition to that brought before you, I would accumulate such a weight of testimony as would compel the most sceptical to admit that the artificial separation of the placenta, like its natural detachment, in place of increasing, arrests unavoidable hæmorrhage.

Let us return, then, to the case before us —extreme exhaustion in the patient; and if it should unfortunately happen that you are called to such a case,—if you find your patient almost pulseless, with cold extremities, cadaverous countenance, perhaps tossing herself about the bed, in the effort to breathe,—I have no hesitation in telling you to remove the placenta at once; to plug the vagina immediately afterwards; to give her a large dose of laudanum (sixty minims) in brandy; to support in every way the temperature of the surface; and, if you find the action of the uterus still feeble, you may try the electric current to promote its action. (I presume, of course, that the apparatus has been previously prepared for you.) But should the pulse be restored, and reaction at all take place, I think you will find that a full dose of ergot of rye will sufficiently answer the purpose. I do not ask you to remove the child even then, because I am very doubtful that any advantage is gained by doing so. The source of hæmorrhage is in the cervix uteri, not at the fundus, exactly where it is compressed by the head of the child on one side, and the plug at the other, which it appears to me will far better control any subsequent bleeding from the sinuses than the removal of the child from the cavity of the uterus. Besides, there is a double risk in such an operation: your patient may be unable even yet to bear the shock that we know it produces, notwithstanding the reaction and signs of amendment. It is also doubtful whether the sudden emptying of the uterus might not be attended with fatal consequences when the pressure is suddenly taken off the great nervous trunks in the abdomen which are imperfectly filled with blood. It might be thought unnecessary to plug the vagina after the removal of the placenta, inasmuch as hæmorrhage ceases on its separation. We advise it as a *precautionary* measure, to meet the possible contingency that hæmorrhage might occur. There is no rule without its exception; and although in 99 cases no flooding may follow, in the 100th you might regret not having plugged the vagina.

Rigidity of the os uteri we have found an impediment to delivery in some of the cases just related. Such was the cause that led Mr. Brown to separate the placenta: we have, therefore, to consider its treatment in cases of unavoidable hæmorrhage. You can readily perceive the danger of such a complication, that there would be great risk of laceration in the attempt to force the hand into the uterus. I have already alluded to Naegele's experience of this accident. He mentions cases of placenta prævia, where the child was turned and delivered with perfect safety, but a continued dribbling of blood had remained after labour which resisted every attempt to check it. "On examination after death, Professor Naegele has invariably found the os uteri more or less torn."

Dr. R. Lee's 23rd case seems to illustrate this. "Hæmorrhage at 8th month;

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* Lancet, vol. ii. 1845, p. 694.

three attacks during one month at long intervals, renewed spontaneously with the utmost violence; os uteri thick and rigid; vagina filled with coagula; placenta adhering all round to inner surface of cervix; artificial dilatation attempted without success; membranes about to be ruptured, when two fingers were passed between the placenta and uterus; a *foot* was felt and brought down into the vagina, and turning accomplished with *great* difficulty, from the orifice of the uterus grasping like a rope the neck of the *child*. Labour completed in half an hour by artificial dilatation, but the hæmorrhage continued in spite of all treatment, and complete exhaustion followed. She died in half an hour from loss of blood."*

Dr. Collins gives a case of laceration of the uterus (No 34) in unavoidable hæmorrhage. "There was no hæmorrhage on admission, but on examination the placenta was found at the mouth of the womb, which was not more dilated than the size of half a crown, with its edge thick, but not very rigid. . . . About an hour and a half after admission (into the Dublin Lying-in Hospital), suddenly the most profuse hæmorrhage set in, so much so, that in two or three minutes the blood was running in every direction over the edge of the bed: this was consequent on some slight uterine action. There being no chance of life without speedy delivery, we determined to make the *attempt, though* the parts were badly *prepared*: accordingly the hand was very slowly and cautiously introduced, and the feet brought down with little exertion: the uterus acted strongly, and felt well contracted after delivery. The placenta came away with the child. Great debility succeeded the operation, with a slight discharge of blood at intervals, and on examining an hour after, a laceration of the neck of the uterus anteriorly, and to the right side, was discovered, commencing at its junction with the vagina, and extending upwards. She died shortly afterwards."† The child was saved.

These cases related by authorities of the greatest practical experience are sufficient to prove the danger of introducing the hand into the uterus through a rigid os uteri. Dr. Collins's case was particularly striking, because the os was not very rigid, the greatest care was used, and I have personal experience of Dr. Collins's caution: nevertheless, the uterus was ruptured. Should we separate the placenta here also? Mr. Brown did so successfully; and if in such a difficulty we had no other alternative than to separate the placenta, or to turn the child, I certainly should prefer the former as a less dangerous operation; but I do not think that, if we reflect a little on the cause of the rigidity, we shall often be placed in such a dilemma as this. My own experience points out to me, that rigidity, such as is met with in difficult labour, very seldom occurs in unavoidable hæmorrhage. The very presence of flooding prevents the os uteri becoming rigid, and generally renders it rapidly dilatable. The cause of rigidity here is the resistance of the cervix unprepared for dilatation. Hæmorrhage may occur prematurely at the seventh or eighth month; the patient is at once reduced to the utmost danger by the flooding, if the os uteri is not ready to yield: the cervix is not sufficiently unfolded, but the practitioner, impressed with the conviction that something must be done instantly, forces his way into the uterus through all opposition, and a fatal result is the consequence. But, if it were possible for us to retard the flooding in the first instance, so as to give the uterus time to dilate, it would do so more rapidly than under ordinary circumstances, and this danger might be, perhaps, avoided. I think if the means that we have before mentioned, the compression of the placenta, were properly carried into effect, it might save us from so great a hazard. If the membranes were ruptured, the waters discharged, the vagina carefully plugged, and ergot of rye, with opium, given, the hæmorrhage would be sufficiently stayed to give time for the os uteri to dilate. If, however, our efforts failed, I should separate the placenta in preference to turning, because it seems to me much less dangerous to pass one or two fingers within the os uteri, than to force the whole hand and arm through it while in this rigid state.

To sum up, therefore, the rules which we wish you to follow as the result of this discussion, protracted beyond what we could wish, we would advise you—

1st. *In a case where no exhaustion has taken place*, or where it is but commencing, to turn and deliver the child the moment the os uteri is sufficiently dilated. If it be dilatable, (and this is generally the case) you may pass through it, although it be not larger than a crown-piece. If it be not so, by properly compressing the placenta, and using other means to support the circulation, you will prevent exhaustion increasing until you can deliver the patient.

2nd. *In a case of extreme exhaustion*, with frequent fainting, fluttering pulse, rapid, laboured, perhaps stertorous respiration, blowing of the cheeks, jactitations, incoherence, and general pallor and coldness of the surface, do not attempt to turn the child; rather separate the placenta, and leave the child undisturbed, until some decided reaction takes place. I am aware that this rule is a direct infringement on the principle of those who look with horror on the risk of allowing a woman to die undelivered. It appears to me to be the only chance of preventing her death.

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* Lee's Midwifery, p. 377.

† Collins's Practical Treatise, p. 98.

3rd. *When the os uteri is rigid*, use every means to compress the placenta, and to increase the action of the uterus, so as to give it time to dilate, and to enable you to turn; but if before that, hæmorrhage so increase as to cause a dangerous degree of exhaustion, separate the placenta, rather than force your hand and arm into the uterus.

Post-partum hæmorrhages may occur either before or after the separation of the placenta: they are far more frequent than those we have been considering, and are often the result of much mismanagement. Those that happen before the expulsion of the placenta are generally the most serious. In a former lecture,* on the management of natural labours, we pointed out to you the importance of allowing the uterus to expel the child slowly, and while it is doing so, to support the contracting fundus with the hand placed over, and steadily compressing it; we stated to you the necessity of bandaging the abdomen after delivery, so as to maintain a moderate pressure on the fundus; and we cautioned you strongly against leaving the patient too soon, lest she might be disturbed. An over anxious nurse, too solicitous to make her patient "clean and comfortable," will take immediate advantage of your absence, and will most officiously busy herself in changing her apparel, removing the soiled bed-clothes, &c. Your patient is consequently greatly moved about, made to sit up perhaps, and not allowed to be at rest until the nurse is satisfied. Now a neglect in any one of these particulars may cause retention of the placenta and hæmorrhage. If you leave the uterus to itself it may contract irregularly; if it be not supported afterwards, there is the risk of its suddenly relaxing, and becoming filled with coagula: but if the nurse officiate in the manner we have described, there is the greatest possible chance that flooding will be the consequence.

Hæmorrhage, however, may occur notwithstanding the best and the most careful management. Some women are greatly disposed to plethora; even during pregnancy there is a tendency to hyperæmia, and during labour the circulation is highly excited. After delivery, if not before, violent flooding takes place. On the other hand, the constitution of some patients is in a state precisely the opposite: there is a disposition to anæmia; the uterus contracts imperfectly, and in such a habit slight loss of blood may be followed by exhaustion, and a most dangerous increase of hæmorrhage. All these several causes may produce flooding after the birth of the child, but the first, that arising from mismanagement, is by far the most frequent.

Hæmorrhage before the separation of the placenta may depend either upon inertia of the uterus, irregular contraction of its fibres, or upon morbid adhesion of the placenta to its surface.

Inertia of the uterus is equally the cause and the effect of hæmorrhage. If the uterus become exhausted from long-continued efforts to expel the child, if it be enfeebled by any constitutional cause, hæmorrhage is the consequence—at first perhaps slight, but as the debility of the uterus increases it soon amounts to a profuse flooding: the patient is placed at once in extreme danger, and the practitioner is in equal difficulty to cause an efficient contraction of the uterus. This want of contractile power in the uterus becomes the chief object of his attention.

The symptoms that characterize this condition of the uterus are very different from those that attend a mere suspension of its action after labour. The placenta is often retained simply because the uterus is not sufficiently excited to expel it, and the term "inertia" is as frequently misapplied in the latter as it is correctly used in the former case. You should be careful, therefore, not to confound the one with the other, but to recognize true inertia as soon as it presents itself: you may do so before any hæmorrhage takes place, even when the child is being expelled. The fundus of the uterus has not its usual firm feel under the hand: it seems spongy or like dough, and is larger than it ought to be, because it very seldom contracts to its full extent. After the delivery of the child, when the uterus generally remains contracted, it will not do so. You may have followed the contracting uterus with the hand, moderately compressing it, and in a short time you find that it has eluded your grasp, and cannot be felt. Strong frictions over the lower part of the abdomen may again excite its action: but it is only for a moment,—again it is lost. While this want of tone may be observed in the uterus, a corresponding amount of constitutional irritation may be noticed in the patient. The pulse is increased in frequency, and assumes the jerking hæmorrhagic character; the patient is watchful and restless; complains of sinking, and does not experience that relief from the termination of her sufferings that is usual after delivery. All these symptoms may precede any hæmorrhage, and should be most carefully watched: they are the monitors of what is approaching. Hæmorrhage generally begins with a slight draining from the vulva, just sufficient to soil the napkins that are applied, but in a short time, if no means for prevention are used, the stream rapidly increases to a torrent, deluging the bed, and forming a pool on the floor beneath. If the attendant is not on his guard, this may be the first notice of danger, because the patient is sometimes too much exhausted to give any intimation of her condition; she lies on her side in a listless, dosy state: syncope may follow, and hæmorrhage for a moment cease, but it soon returns with the pulse, a violent gush of blood places the patient at once "in extremis:" a more prolonged syncope returns, from which she may never recover. Sometimes a fit of convulsions precedes dissolution. In this description we have assumed, that there was either none, or at least a very inefficient assistance, because I know of no case in which well-directed treatment is more effectual in arresting fatal consequences; by coolness and decision you may save your patient absolutely from the jaws of death: but if placed on your guard by premonitory symptoms, you ought generally to avert such extreme symptoms presenting themselves. I say generally, because there are some melancholy exceptions in which a feeble constitution is irrecoverably sunk by the first discharge.

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* Lect. vi. vol. xlii. pp. 97-101.

The treatment of such cases must be directed, 1st. To restore the tonic contractile power of the uterus. 2d. To remove the placenta. 3rd. To prevent, as far as possible, any subsequent relaxation of the uterus.

In order to accomplish the first object, you must endeavour, by every means in your power, to support the general circulation, which every symptom points out to you is struggling to maintain itself. Without attention to this, merely local treatment would be utterly inefficient, and might possibly increase the danger. If there be great exhaustion, the patient should be given a drachm of Tinct. of Opium in brandy: this may be repeated in more moderate doses, until the pulse becomes steady. If the stomach be very irritable, and reject this, it will sometimes bear broth when taken cold, and morphia may be substituted for tincture of opium. Smellie used to give portable soups, dissolved in water. The patient should be kept in a perfectly horizontal position, which is not very easy when exhaustion is commencing. The arms and legs should be wrapped in hot flannels, the curtains drawn back, the window raised, and a free circulation of air secured in the apartment. Locally, every means must be employed to retard the force of the circulation in the uterus. The most convenient mode, I think, is to have a bucket containing flannels, over which may be thrown lumps of ice, and a sufficient quantity of water poured over the whole. These flannels may be wrung out, and applied from time to time to the hips and valve. At the same time that these means are being carried into effect, the strongest pressure should be maintained on the fundus uteri, to prevent its relaxation. The success of your treatment becomes evident when you feel the fundus first becoming distinct, and then more firm, under the hand. In many cases the pressure is sufficient to cause the expulsion of the after-birth, but if not, it becomes your duty, in this favourable opportunity,—

2ndly. *To remove the placenta.*—For this purpose, let one hand still compress the fundus, or assign this duty to an assistant, clearly explaining what is to be done, and then pass the hand into the vagina to the os uteri: sometimes by drawing down the hand again slowly, the back of it being pressed strongly against the posterior wall of the vagina and the perineum, the uterus is excited to contract and expel the placenta into the vagina, from whence it may be removed. If not, draw down the funis to its full extent, as far as it will go, and let the hand in the vagina, guided by it, press forward into the uterus. The fingers formed into a cone will readily dilate the os uteri sufficiently to admit the hand; and here, again, it sometimes happens that the act of dilatation will excite a sufficient contraction to expel the placenta; if not, you must proceed; but, as a precaution, it would be well to give the patient a full dose of opium previous to entering the cavity of the uterus: when the placenta is reached, do not at once seize it in order to draw it down, rather seek to pass the hand above it, towards the surface of the cavity of the uterus. This portion of the uterus is now placed between the introduced hand and that which compresses it externally through the abdomen; by increasing this pressure, the irritation very seldom fails in causing the uterus to contract; the moment this is observed, let the hand be slowly withdrawn, having the whole placenta within it, and let a strong pressure be made on the fundus uteri externally. Thus, the placenta may be safely withdrawn, and if the uterus be properly secured, no further hæmorrhage will take place. Our next object is, therefore, to do this, and

3rdly. *To prevent, as far as possible, any subsequent relaxation.*—When contraction of the uterus takes place, and it is made thus to expel the hand and the placenta, from that moment the compressing force cannot be taken off from the fundus, because there is a constant tendency in the uterus to relax again, and if so, hæmorrhage is renewed: to prevent this, it is often necessary to press very firmly with both hands on the fundus, and to continue this pressure for some time: if fatigued, an assistant may continue it; but you must be particularly careful that he understands your object, because I have seen more than one instance where pressure was made everywhere but where it should be: but when the uterus is properly compressed it becomes an extremely efficient mode of preventing its relaxation. In order to insure this effect, by the continuance of the pressure, the abdomen must be very carefully bandaged.

The application of the bandage requires great attention; your object now is much more than to give the uterus moderate support. It is necessary to compress it firmly; therefore compresses are as essential as the bandage alone is insufficient. For this purpose, several napkins may be prepared: some of them, rolled up about the size and shape of folded stockings, may be applied on each side of the uterus; others, as pads, above the fundus, but in such a manner that each pad may be larger than that beneath, so as to form a kind of inverted pyramid, pressing down upon the fundus of the uterus. The whole should be kept in their position by the bandange drawn as tightly as possible over them. When a patient is bound up in this manner, she suffers no small inconvenience when she is recovering, from the tightness of the bandage: there is the greatest possible desire to take out a pin or two to get relief, and if so, the compresses are all deranged, and perhaps the hæmorrhage may be renewed. A patient who has just escaped the fatal effects of hæmorrhage cannot, therefore, be left to herself, or exposed to the risk of its renewal. If the bandage be unpleasant to bear, cautiously loosen and re-pin it, but if the least draining appear you must continue the pressure as before. Several contrivances have been suggested to prevent an inconvenience of this kind, and at the same time to regulate the amount of pressure more accurately. One of these has been invented by a former pupil who attended this class, and was much struck by the want of some means to accomplish this efficiently. Mr. J. R. Pretty has contrived a very ingenious instrument, on a principle that had been for many years previously acted upon by his father, who had been in the habit of using a common tourniquet and a pad, made either of cork or a book well padded with a napkin. It gives me pleasure, therefore, to bring this instrument before your notice, because it seems very well adapted for the purpose, and the invention comes from one of yourselves. I shall give you Mr. J. R. Pretty's description of the bandage he has contrived:—"It consists of three pads, the central one being the largest; the lateral ones are thicker and narrower, and fold over the central one when not required for use; these can be carried separately from the belt, &c., and when together are not larger than a small book. The belt is of webbing, about three inches wide, and is fastened by a buckle and strap. It has attached to it Mr. Coxeter's improved tourniquet, the screw of which is only half the length of the one on the old principle, and yet it raises as much web; so that this is easily carried."* The object of this bandage is to maintain pressure on the uterus laterally as well as above the fundus, and to increase or diminish the pressure by means of the tourniquet: thus, you may cautiously relax the pressure, or again increase it to any extent, without disturbing the abdominal bandage, which, in this case, need not be so tightly applied as when you have no additional means of increasing the compressing force.

Although the hæmorrhage is thus arrested, your anxious duties have not yet ceased; the state of the circulation and the nervous system must be closely watched: so long as the pulse preserves its hæmorrhagic character, is quick, compressible, and jerking, or if the patient remain watchful and restless, she is not safe, although no further hæmorrhage may be observed. Ergot of rye is then valuable in rendering the contraction of the uterus more steady and permanent, and may be given either separately in infusion, or in combination with opium; the latter medicine is indispensable until the patient has some sleep. Ice-cold napkins must still be applied to the vulva, and changed frequently, in order to notice any increase of hæmorrhage that might occur. The chief object of your attention is the disposition of your patient to sleep: when the pulse and the respiration become more uniform, if she lie quiet, and is inclined to dose, your anxiety is in a great degree relieved, but do not confound this natural rest with the stertorous dosing of exhaustion. Sometimes the patient will not sleep when lying on her back in the required horizontal position, and although every other symptom is favourable, this watchfulness will cause you uneasiness. When this is the case it is advisable to change the patient cautiously to her side, and at the same time to interpose a dry warm sheet between her hips and the bed, already sufficiently saturated. The room should be kept as cool and as well ventilated as possible, and at the same time perfectly still; the senses are now unusually acute, and the slightest sound disturbs the patient. If you succeed in this treatment, and two or three hours' rest is procured, the circulation is quite restored, all nervous irritation has disappeared, and the patient rapidly recovers.

Irregular contraction of the uterus is frequently attended with hæmorrhage, but generally not so severe as in the former case; the fact of the uterus being contractile makes an important difference. The fundus is sometimes very unequally contracted, which you may not perceive if you only examine its anterior surface. When the hand is placed on the abdomen, the uterus may feel sufficiently contracted, and yet the placenta is retained, and hæmorrhage takes place: but if a more careful examination be made, you will find that such is not the case. Sometimes the posterior surface is relaxed, or perhaps one side of the fundus is contracted, and the opposite not so. Whenever, therefore, the placenta is retained, the uterus seems to be contracted, and hæmorrhage occurs, do not, as I have known done, decide that there is an hour-glass contraction, and proceed to remove the placenta; rather seek to equalize the contraction of the uterus by pressing firmly, but equally, over the whole fundus; pass the hand posteriorly over its sacral surface, and grasp the sides of the fundus with both hands: this irritation often succeeds in restoring the proper order of uterine contraction, and expelling the placenta. If this be not sufficient for the purpose, the hand may be introduced into the vagina, within the os uteri, or into the cavity of the uterus, in the manner we have described in cases of inertia: the uterus will then contract and expel the placenta. You will find that it is very seldom necessary to enter the cavity of the uterus in these cases: the uterus has not lost its contractility, and is therefore much more easily excited into action than when there is inertia. I have stated to you that these cases are sometimes called hour-glass contractions of the uterus. One cause of deception arises when the attempt is made to pass the hand into the uterus. The hand and arm enter the vagina, pushing the uterus before it so high, that the practitioner supposes he must have entered the uterus; he then feels the os tincæ contracted, gets the fingers and hand through it into the cavity of the uterus, and removes the placenta, which he is now convinced was retained by an hour-glass contraction of the uterus, the os uteri being mistaken for it: we shall therefore consider separately,

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* Medical Gazette, Jan. 16, 1846, p. 117.

Stricture of the cervix uteri, attended with hæmorrhage. This is not by any means a frequent cause of retention of the placenta, and when it happens, if hæmorrhage take place, it is generally internally into the cavity of the uterus. The placenta is usually detached from the surface of the uterus, and is only prevented from passing into the vagina by the stricture. The blood that in other cases flows away, collects and coagulates above the placenta. These coagula increase in size and number until they distend the uterus; their irritation excites its action, and an increased discharge of blood and more coagula are the result; the uterus yields to the distension until it becomes almost as large as it was before delivery, and internal hæmorrhage to a very serious extent sometimes takes place: symptoms of exhaustion suddenly present themselves, and the patient is at once found to be in the greatest danger, when perhaps the practitioner was very patiently expecting the delivery of the placenta, quite unconscious of what had been going forward, because no discharge from the vagina was observed. The pulse is feeble, almost imperceptible; the patient is restless, and disturbed by retching; the uterus is enormously enlarged.

The treatment of such a case is obvious. The stricture must be overcome, the placenta and coagula removed, and the contraction of the uterus permanently secured. In order to relieve the stricture, it is necessary to draw down the funis, and keeping it on the stretch to pass the hand along through the vagina and os uteri into the cavity of the cervix: this seems larger than might be expected, and hence you might readily imagine the hand was in the cavity of the uterus; but if the funis be still followed, it will be found passing through this cavity by an opening that seems like a rent in the uterus—the stricture of the cervix. When you arrive thus far, it is necessary to proceed cautiously; one or two fingers may be first introduced, and an effort gently made to distend it; a third may be admitted, and a fourth, until you have a cone formed by the fingers, which may be pressed steadily forwards through the stricture. At first the stricture offers great resistance, but when it yields, it generally does so rapidly, aud admits the hand into the cavity of the uterus: here you find the placenta and an enormous quantity of coagula, all which must be removed with great caution. If they were suddenly withdrawn, hæmorrhage and a dangerous syncope might follow. It would be desirable to give the patient some stimulant previously, with opium and ergot; in fact, to use every means to induce an uniform and adequate contraction of the uterus, while the hand is being withdrawn with the placenta and the coagula. When this is accomplished, there is not so much danger of any subsequent relaxation of the uterus as there is in inertia, but it would nevertheless be advisable to guard against its occurrence.

This accident, which may truly be called "hour-glass contraction," is, according to some authors, of frequent occurrence; they record many instances of it: others, however, speak of it as being rare. I am inclined to the latter opinion; I do not think it at all so frequent as it is described: very few cases of it have fallen under my own observation, although I have been summoned more than once to supposed cases of hour-glass contraction, when none at all existed, the mistake arising in the way I have ex-

ined—the stricture being the os uteri.
e must therefore be cautious not to con-
nd the one case with the other, and to
llect that in true hour-glass contraction
hand passes, as it were, through a
ible stricture, the first being the os uteri.

Morbid adhesion of the placenta, when it
partial, always causes hæmorrhage, but
en it is completely adherent does not do
: the latter, however, is very rare,—I can
y remember to have met with one case of
kind: the former variety is frequent,
l is the proper object of our attention.
emorrhage from this cause is not generally
severe as in inertia uteri, because the
rus is, to a certain extent, contracted,
l the morbid alteration in the placenta
ists in preventing the flow of blood from
s source: there is generally a draining
morrhage going on for some time, until
constitution begins to feel the effect of
exhaustion suddenly presents itself, with
increase of the hæmorrhage, and the
ient is placed at once in danger.

Morbid adhesion may be readily ascer-
ned by observing the effect of pressure on
fundus uteri—it feels hard and firmly
tracted, nevertheless the placenta is un-
ved. If, while pressure is so made, the
is is drawn down to its full extent, it
y be brought out of the vagina some
tance, just as when the placenta is follow-
; it, but the instant that the hand is re-
ved and the uterus ascends, the funis is
wn up again into the vagina.

When the cause of retention is known,
re is only one mode of treatment—the
centa must be removed by the hand.
e funis will conduct the hand to the
centa, generally somewhere near its cen-
: from this point the fingers should be
ected towards the circumference, so as to
d the portion that has been detached: when
s is found, the separation of the remainder
generally easy; but it is very necessary
separate the placenta completely, to
ve nothing behind, because a very small
rt of the placenta thus allowed to remain
ached may continue the hæmorrhage to
erious, if not to a fatal, extent. Some-
es you may not be able to find an unat-
hed portion, in which case the separation
rather more difficult. The margin of the
centa is not so easily ascertained as you
ght suppose: the smooth membranes that
ver its fœtal surface prevent you detecting
edge of the placenta plainly; we cannot
the eye: you may feel the soft mass of
placenta, and can distinguish it from the
mer and more unequal surface of the
rus, but it is necessary to break through
membranes to detect the edge of the
centa. This is often very difficult to
arate, because it adheres so firmly to the
rus, but when it is detached the remaining portion peels off easily. The nature of the adhesion, however, may prevent this: then the vessels of the placenta are broken through, the fingers become entangled, the greater portion is removed, but some part is left behind. In such cases the closest attention must be paid to the subsequent treatment of the case: there is a risk that hæmorrhage may be renewed, but the chief danger to apprehend is inflammation of the veins of the uterus, from absorption of the decomposed and putrid residue of the placenta into the circulation. The patient may escape this, and portions of the placenta be separated and discharged with the lochia, or possibly it may be retained in the uterus to undergo future alterations of structure, and form these anomalous growths, known as moles, hydatids, &c. &c.

Hæmorrhage after the separation of the placenta may depend upon inertia of the uterus, an over-excited circulation in a plethoric patient, or upon mismanagement. The last is by far the most frequent cause: the patient may be too soon disturbed after her delivery, for the purpose of changing the dress or bed-clothes, or her friends may keep her in a constant state of excitement be their kind but too officious congratulations. The result is flooding. Again, if she escapy these dangers immediately after delivery, your patient may be allowed perhaps on the third or fourth day to get out of bed: the circulation is again excited (in the uterus, still very large and easily distended, and hæmorrhage is the consequence. You are not even safe on the tenth or fourteenth days. One of the most alarming hæmorrhages I ever had to treat occurred on the tenth day after delivery. The lady had gone on very well up to that time; but while sitting up in the evening in her bed-room, enjoying a hearty supper and the society of some friends, the stimulus of the one, and the excitement of the other, brought on a most unexpected and violent flooding, which required the utmost exertions to arrest. All these causes are derived from mismanagement. Plethoric habits are very liable to hæmorrhage after the separation of the placenta; and of these, some might be said to have a hæmorrhagic temperament. The circulation is excited to a great degree during labour; and if the patient escape hæmorrhage before delivery, if your cautious management prevent flooding before the expulsion of the placenta, still it is sure to follow sooner or later afterwards. This is the kind of case which Gooch describes when he speaks of hæmorrhage notwithstanding the uterus being contracted:—" For many hours before the accession of labour his patient was flushed, and had a very quick pulse. Abstinence from meat, wine, and warm drinks, a cool room, and a saline purgative, diminished but did not remove this state of the circulation, which continued in a considerable degree when the child was born, and after the removal of the placenta the uterus felt in the hypogastrium contracted in the ordinary degree; nevertheless, about twenty minutes afterwards there came on one of the most frightful hæmorrhages I ever witnessed."[*] This patient had similar attacks in every succeeding confinement; nor were they prevented until Gooch, for some time before labour began, placed her under the strictest surveillance. By a rigidly abstemious diet, saline purgatives, a scruple of nitre three times a day, he at length succeeded:—"After the birth of the child, and the removal of the placenta, the uterus contracted not more than in her last labour; but not the smallest degree either of flooding or faintness took place." I cannot express better the mode of managing these cases, than in his own language. "How often, (he says) a disturbance of the circulation plays an important part in uterine hæmorrhage, it is difficult for an individual to know, but I suspect sufficiently often to deserve the especial attention of practitioners. I advise them, when they meet with patients subject to hæmorrhages after delivery, to notice the state of the circulation before labour, and, if disturbed, to employ means for tranquillizing it before labour comes on. I advise them during labour to use cordials, cautiously," (I should say not at all) "lest the placenta should separate during an excited state of the circulation. I advise them after delivery, though the uterus may feel contracted, to be slow to leave their patient, if the circulation is greatly disturbed."[†] In these directions I cordially agree.

Uterine inertia sometimes continues longer after delivery than might be expected, and will cause hæmorrhage even at the tenth or fourteenth days. I witnessed the occurrence of flooding on the tenth day, that was near being fatal, in a poor emaciated woman, to whom I have already alluded in a previous lecture.[‡] By careful attention to her while in the hospital, she gradually gained strength, but on the tenth day, while sitting up for the first time, flooding came on, attended with syncope and great exhaustion. She would have died, had it not been for the most energetic measures. I think opium, in large doses, saved her. The case, however, forms a striking contrast to Gooch's, and shows you how the most opposite causes often lead to precisely the same results. To treat a case of this kind successfully, you must, as in the former instance, commence before labour, and follow a course opposite to that recommended by Gooch. Good diet, if it can be had before labour, and even cordials during labour, may be necessary to give such a patient proper support. After delivery, the greatest caution must be used to increase the tone of the uterus—ergot of rye is indicated, with tonics. If hæmorrhage occur, opium is the best remedy to control it.

PHYSIOLOGICAL COLOURS PRODUCED BY CONTRAST.

Some interesting observations with respect to the formation of complementary colours, have been published by Dr. Tourtual. On moving rapidly to and fro a pen-knife in front of the white glass shade of a burning lamp, Dr. Tourtual observed that it assumed a beautiful blue colour, the distinctness of which was in direct proportion to the rapidity of the movements. On the cessation of these movements the colour changed into black. The introduction of a second light prevented the occurrence of the phenomenon. The blue colour was considered by Dr. Tourtual to be complementary of the reddish-yellow colour of the lamp; and he was led by the circumstance to undertake some additional experiments on the subject. On placing a strip of black silk, about three lines broad, on a piece of orange-coloured cloth, and on directing the axes of both eyes towards it at a moderate distance, and in clear daylight, the distinction between the two colours was clearly seen. But on closing the left eye, and gradually approximating the object towards the right eye, whose direction and point of adaptation remained unaltered, a bright margin appeared around the black silk, and the silk itself assumed a dark blue colour. When, in a similar experiment, the black silk was placed on a purple ground it assumed a green colour, on a violet ground a yellow colour, and so on; the colours assumed being always complementary of that on which the silk was placed. A similar phenomenon was observed when, instead of the black silk, a strip of white paper of the same breadth was employed. The change of colour may be observed also, when, instead of altering the position of the object, the eye be directed to a point about an inch on one side of the black stripe; or when the one or both eyes are made to accommodate themselves to distant vision. The size of the pupil has no direct influence on this phenomenon; it appears, in the opinion of Tourtual, to arise from indistinctness of vision alone.—*Baly and Kirkes's Recent Advances in Physiology.*

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[*] Gooch, Diseases of Women, p. 333-4.

[†] Gooch, p. 338.

[‡] Lectures on Natural and Difficult Parturition, p. 111.

Original Communications.

ON THE
USE OF EMETICS IN CHOLERA.

By Gavin Milroy, M.D.
Member of the Royal College of Physicians, &c.

[Continued from last volume, p. 966.]

No. IV.

In my last paper, I endeavoured to shew that the vomiting, which generally forms so conspicuous a feature in the early stage of malignant cholera, should be regarded rather as a salutary effort of the system to relieve internal congestion and to equalize the distribution of the blood, than as a pernicious symptom that ought to be arrested as promptly as possible. That such is the case may not unfairly be presumed, I think, from the circumstances that, in the worst and most rapidly fatal attacks of the disease, there is usually little or no vomiting, or it follows and does not precede the sinking of the circulation, and the supervention of vomiting in this condition is a favourable, and not an unfavourable, sign; that, whenever the vomiting has been rendered more energetic and forcible than it ordinarily is when occurring spontaneously, the flagging circulation has been observed to be roused up for the time, and the temperature of the surface to be somewhat increased; and that very many of the most able and experienced writers on the disease have, in the strongest manner, expressed their opinions that the vomiting should be promoted, and, so to speak, invigorated at first by the use of powerful emetics. Before proceeding to adduce any direct evidence, from the results of recorded experience, in favour of this plan, I propose to take a rapid glance at two or three of the most approved and successful methods of treatment, which, although not professing to be and not usually considered to belong to, or as coming under, the emetic line of practice, will be found, however, to illustrate, in a very instructive manner, much of what has been already said on the subject in my previous communications. For, if the view which has been taken of the pathology of the disease, and of the therapeutic principles upon which its cure should be attempted, can be shown to receive confirmation from the results of various, although not opposed, remedies and modes of practice, which have unquestionably been more than ordinarily successful, our confidence in its soundness may very fairly be expected to be enhanced. Unfortunately, our data in this inquiry are neither so numerous, nor so thoroughly exact and trustworthy, as could have been wished; and great caution must therefore be had in making any statements or reports the basis of our reasoning, if the published evidence be at all conflicting or contradictory. Moreover, there is a point that requires to be most steadily kept in view, whenever we attempt to estimate the value of any mode of practice in such a disease as malignant cholera—viz. that the virulence and fatality of the distemper vary most materially at different periods of an epidemic visitation, whether any remedies be employed or not. In general, the intensity of the morbific poison is greatest almost immediately, or, at all events, very soon after its first appearance in a place. The truth of this is strikingly exemplified in those sudden outbursts of the pestilence that every now and then occur in the East Indies. Thus, at Kurrachee, Mr. Thom tells us that of the first 100 patients, no fewer than 79 died; of the second 100, 66; of the third 100, 50; and of the fourth 100, only 40. Sometimes, nearly every case has proved fatal at first. For example, when the disease broke out in Paris, in 1832, of the 98 cases that were treated in the Hôtel-Dieu during the first three days, only five recovered; and I saw it stated in the newspapers the other day, that of the first 21 cases which occurred at Stettin during the present epidemic, 19 proved fatal. The fact, indeed, appears to hold pretty generally everywhere, that the virulence of the disease is greatest during the first few days or weeks, according to the length of the epidemic visitation; and that it then begins to abate until at length it either ceases almost altogether, or lapses into a mere diarrhœa, or perhaps a fever accompanied with some intestinal disturbance. But, as the peculiarity alluded to must equally affect the success of all modes of treatment alike, provided they are used at the same period of the epidemy, it is unnecessary to say more upon this head: we pass on therefore to particulars.

As well as I have been enabled to judge from a careful perusal of much that has been written upon the subject, as well as from what I have observed at the bedside of the sick, I should say, as a general remark, that the success of remedial treatment in malignant cholera, when its characteristic symptoms have fairly set in, has been uniformly proportionate to the aid which it gives to Nature in her efforts to equalize the circulation, by relieving the internal congestion and by promoting a mere equable distribution of the blood to the surface. Now, if the act of vomiting be, as I think there is every reason to believe, an endeavour, or *nisus* of the *vis medicatrix*, to attain these and other objects, we are at once prepared to expect that whatever tends to check or arrest the process suddenly before the failing energies of the circulation have been in some degree reestablished, will eventually prove to be rather prejudicial than otherwise. And what are the results of experience? Is it not the case that, upon the whole, the liberal exhibition of opium (to confine our remarks for the present to this the most used of all the repressive means), has been found to have been eminently unsuccessful? From the tabulated data which Mr. Ross gives in his very valuable papers on cholera, now publishing in the pages of the *Medical Times*, it clearly appears, that by the addition of opiates, in considerable doses, to other remedies or plans of treatment—such as the calomel, the saline, or the simple cold water or ice treatment,—the results were invariably found to be less prosperous than when they were altogether omitted. It is *quite* true that in the early stage of the disease, before congestion is fairly established, and while the powers of the circulation are only beginning to flag, a dose of opium may, if the patient be in a warm bed at the time (and it need scarcely be said that, without this aid, no treatment can have a fair trial), by acting as a stimulant diaphoretic, produce decided benefit, and arrest the morbid action, just as it is known to do when administered under like circumstances, and with a like object, in the cold fit of an ague: no sooner is a warm perspiration induced than the vomiting generally ceases, the diarrhœa is stayed, and the cramps are relieved. The arrest of these symptoms is not antecedent to, but consequent upon, the restored balance of the circulation; *sublatâ causâ tollitur effectus*. But are we justified in looking for a similar result, if opium be given in large and repeated doses as a mere astringent or anodyne? Both reasoning and experience are, I think, against this idea. Without attaching much importance to the first, let me simply impress upon the reader's attention the fact (as evolved from Mr. Ross's tables), that, while the ratio of mortality, when calomel alone was given, seems to have been about 30 or 35 per cent., that from the use of calomel and opium was nearer 60 than 50 per cent. And I fear that the experience of the last few months in Great Britain would, if the facts were fully known, serve but to confirm the accuracy of this latter estimate. The proportion of deaths to the number of persons attacked, since the pestilence appeared at Hull about three months ago, is certainly anything but satisfactory or cheering in a medical point of view. Nearly one half of the cases have proved fatal,—a ratio almost or indeed quite as great as what it has been in many countries where scarcely any professional assistance was to be had. And what has been the treatment generally had recourse to? Generally speaking, as far as we can judge from the reports of coroners' inquests, and the as yet imperfect details in medical periodicals, the use of calomel and opium with stimulants of some sort or another at the same time, for the professed object of arresting the discharges, and of preventing or counteracting the collapse.

Without making any comments for the present upon the administration of spirituous stimulants, I would now invite the reader's attention to the recorded results of that simplest of all the modes of treating cholera,—I mean that of giving nothing but cold water or ice. According to Mr. Ross's calculations, the ratio of mortality under this treatment seems to have been not more than between 20 and 30 per cent., if indeed it was so high; for I would rather understate than overstate the results, whenever they are stated to have been successful. But let us descend, for a few moments, to some particulars respecting a practice which some may fancy to be equivalent to doing nothing, or to leaving the disease entirely in the hands of Nature. For this purpose, it will be best to glance at the original papers of Dr. Shute of Gloucester, to whom belongs the merit of having introduced the practice, at least in this country. Dr. S. had very early observed in his practice that decided injury was done by the administration of spirituous stimulants; and being at the same time forcibly struck with the remarkable thirst and insatiable desire, on the part of the poor sufferer, for cold drinks, of which none was so grateful as pure water, he thought that he could not err much if he followed out this strong instinct of Nature. Cold water was therefore given the patient not only *ad libitum*, but repeatedly offered to him, if he did not call for it. Now, what were the usual effects of this practice? "In what," says Dr. Shute, "I consider the most favourable cases, *vomiting is almost immediately produced* (after a draught of cold water), and the patient in two or three minutes after, calls for, and eagerly drinks the same quantity, *with the same results.* This is often continued for hours, until gallons of water have been taken, and the greatest proportion, but I conceive not all, is rejected." The vomiting, it will be observed, is thus kept up for a great length of time, nothing being done to check it; for, in short, no other remedy, internal or external, was used with the cold water. Dr. Shute—and this point deserves serious attention, as bearing very materially on the success of the treatment—is not anxious to bring about reaction very rapidly; he proposes that Nature should do it gradually, and in her own way. "In the first six or eight hours no amendment can (may) be observed. In the next six or eight hours, there is some diminution of intensity in the purple hue of the extremities (from the returning circulation of the blood). In the next six or eight hours there is a manifest improvement in the countenance of the patient, and increased disposition to sleep; in some cases the pulse has not been perceptible for 24 or 36 hours. From this period the pulse, the animal heat, and the secretions, are very gradually restored." It may not be uninteresting to give Dr. Shute's explanation of the practice:—"I cannot," says he, "but refrain from briefly suggesting—1, the importance of knowing that, in the collapsed stage of cholera, cold may be extensively applied to the coats of the stomach without diminution (to use the most cautious term) of the vital energy; 2, that cold so applied has a manifest tendency to check the exudation of serum which characterises the disease; 3, *the acknowledged good effects of vomiting;* 4, the probable good effect of the fluid absorbed from the stomach in restoring the fluidity of the blood; and 5, the great importance of the arterial circulation being restored as gradually as possible, and the fact of the convalescence taking place without the consecutive fever."

Ice has been used by several medical men, more especially on the continent, with decided benefit. It seems to act not only by relieving the intolerable thirst and sense of burning heat that is generally felt in the stomach, but also by aiding, in some way or another, in the gradual restoration from the state of collapse. I shall quote but one short extract upon this subject. Mr. Fergus, in his admirable account of the cholera at Vienna (Lancet, June 1832), says of this remedy:—"The patient received it in pieces as large as he could swallow, and his skin was rubbed with large pieces, and afterwards well rubbed with rough cloths, and the patient put in a warm bed. *The first effect of the ice was to produce vomiting, which was soon followed by increase of the temperature, &c.* Even in cases where the thirst, cramps, and oppression of breathing were most violent, and the skin already cold and blue, with no pulse at the wrist, a reaction was produced by the employment of these means."

If such, then, be the curative effects of the administration of cold water alone, when steadily persevered in as Dr. Shute recommends, it is obvious that we must not lose sight of the important part which this simple remedy may play in every mode or plan of treatment when it is freely and liberally given. For example, a good deal of the success of Mr. Marsden's practice at the Free Hospital (then in Greville Street) was doubtless owing to this cause. Mr. M.'s practice consisted in giving a solution of muriate of soda, carbonate of soda, and oxymuriate of potash, every quarter of an hour until the pulse become perceptible; then every half hour, every hour, and so on till the circulation was more completely re-established. "During the progress of this treatment," says Mr. Marsden, "as much cold water may be taken as the patient desires; the more the better." Of course, the same effects were produced as in Dr. Shute's practice. It may be worthy of notice, that Mr. M. recommends in the first stage, before the symptoms of collapse have set in, a strong dose of calomel and ginger, to be followed, in the course of an hour or two, with a purgative draught of an ounce of castor oil, with as much tincture of rhubarb: saline mixture or soda water to be given frequently. He, like Dr. Shute, disapproves of the use of opiates and spirituous stimulants for the purpose of arresting the discharges, or forcing up the circulation. It should be mentioned that Mr. Marsden's success appears to have been very great: in Mr. Ross's table, the mortality is estimated as low as 14 per cent. His practice, it will be observed, along with the advantages already explained of the cold water treatment, is calculated to excite the stomach and bowels to more energetic contractions, as well as to supply the system with a certain amount of saline matter in lieu of that drained out of the system by the excessive discharges.

Let us now turn to consider another line of treatment, that which has been so energetically recommended by Dr. Ayre, and which certainly appears to have proved highly successful in his hands, as well as in those of other medical men who have adopted it. It consists in giving small doses of calomel, one or two grains every five or ten minutes, perseveringly and uninterruptedly, until a decided impression is made upon the disease, indicated by an abatement of all the urgent symptoms and an amendment of the general state taking place. One or two drops of laudanum are added to each dose of the calomel, until fifty or sixty drops have been taken; and then, usually, the calomel is given alone, either as frequently as before, or at longer intervals if the collapse and other symptoms have become less aggravated. An unrestricted use of cold water is allowed to the patient throughout the treatment. No other remedy, internal or external, is employed. Now, what have been the usual effects of this practice? It is obvious, from the cases recorded by Dr. Ayre and other practitioners, that, in most of them, the vomiting continued with unabated frequency and severity for very many hours—in some cases for upwards of four-and-twenty—after the treatment was begun. Indeed, the almost incessant repetition of the pills, coupled with the frequent draughts of cold water allowed to the patient, must almost inevitably have the effect of promoting rather than of checking this symptom at first. The minute doses of laudanum, combined with the calomel, can scarcely be regarded as likely to prove at all anti-emetic; and it is clear that Dr. Ayre does not attach much importance to the addition, as he sometimes omits it altogether, and always discontinues its use early. He, too, like Dr. Shute, avoids and discommends the employment of stimulants or any other means with the view of bringing about a rapid reaction. In one of his communications, he states that "the average duration of the disease in those who recovered under his treatment has not been more than four or five days, and in a very few only was there any consecutive fever." The quantity of calomel, which he has administered in the way explained, has varied from 60 or 80 up to 200, 300, and even 500 grains; which, allowing ten grains or so per hour as an average, seems to indicate an uninterrupted perseverance in the use of the medicine for from six to fifty or sixty hours. We are told by Dr. Ayre himself of one case where a man was admitted with the disease in its most malignant form, and who only emerged from it slowly at the end of three days: the immense quantity of 580 grains of calomel was taken; and yet this patient, without either fever or ptyalism following, was perfectly well, and ready to leave the hospital in a week.

It has been argued, from the circumstance of salivation very rarely occurring in Dr. Ayre's treatment, notwithstanding the occasionally enormous quantities of calomel swallowed, that the medicine may have had much less to do with the recovery of his patients than he supposes; and that not a little of the success, which has unquestionably attended his practice, is to be ascribed to the avoidance of stimulants, venesection, or large opiates, on the one hand, and to the unrestrained allowance of cold drinks on the other; and, indeed, Dr. Ayre himself gives some countenance to this idea by his own admission, that, *so long as the state of collapse continues, no absorption of the calomel takes place.* I have no doubt in my own mind that Dr. Ayre ascribes too much to his favourite medicine, and allows too little to the influence of other agents or agencies in the successful results of his plan of treatment. He errs, it seems to me, theoretically rather than practically; and, what is very fortunate for him, the success of his practice, although it professes to be based upon his theory, appears to have been, in a great measure at least, quite independent of it. For what is his doctrine of the pathology of cholera, and the rationale of his treatment as explained by himself?—1, "that the disease essentially consists in an interruption and, in its malignant form, in a sudden and entire cessation of the secretion of the liver," the sanguineous congestion of the portal and general venous systems being regarded by Dr. A. as a consequence or result of this suspension; 2, "that the indication of cure must consist in restoring the secretion;" and 3, "that calomel is appropriately and confessedly the only medicine that can be relied on for this purpose." So enamoured is he with his favourite remedy, that in another passage he has not hesitated to assert that, "as possessing the specific property of promoting the secretion of the liver (an interruption to which had been just before declared to be *the essence of the disease*), it is at once a medicine that claims not merely to be united with others in the treatment, but to be relied on as a specific in this complaint, and to be employed to the exclusion of all others."

It is scarcely necessary to say that, according to the view which I have taken of the pathology of cholera, and which I have endeavoured to shew is fairly deducible from the natural history of its symptoms, the fallacy of Dr. Ayre's opinion consists in regarding the suspended secretion of the bile as the cause or antecedent, and not as only one of the effects or consequences, of the sanguineous congestion and remora in the portal and general venous systems. It has been said—and said, too, with a good deal of truth—that you might just as well maintain that the essence of cholera is a suppression of the urine as of the bile; for the one symptom as uniformly exists as the other, and it is generally admitted that the return of the one secretion is as sure and certain an evidence of the abatement of the disease as that of the other. Now, although this reasoning be not altogether sound,—for that the stress of the disease, so to speak, falls primarily and most severely upon the portal circulation, and that the function of the liver is pretty generally more or less re-established before that of the kidneys, will scarcely be disputed,—is it not far more reasonable to believe that both lesions of function are the result of one and the same cause, viz. the deeply injured state of the blood from which all the secretions are derived, and of the vital powers which move and circulate it? And does not clinical observation confirm the truth of this conjecture?—for is it not the case that, in every instance of genuine malignant cholera, in which the discharges are watery and the pulse has become indistinct and flickering, there is uniformly a more or less decided restoration of the sanguineous current, evidenced by a greater distinctness of the pulse and a partial return of warmth to the surface, before either any bile is visible in the dejections, or any urine is evacuated from the bladder? It is a mistake, therefore, to suppose that the suspension of the formation of any one secretional or excretional fluid from the body is the first and necessary link in that singular group of symptoms which characterises the disease known as malignant cholera. Such phenomena are but the results of an antecedent lesion or shock, which we have endeavoured to shew falls primarily on the circulatory system, and more especially on that part of it which is connected with the abdominal viscera. If such be the case, it need scarcely be said that the great and leading therapeutic indication is not so much to restore the secretion of the bile as to keep the vital fluid, from which it and every other secretion is derived, in motion, in order that Nature may be able, if possible, to overcome the morbific effects of the poison that threatens to stop the machinery of life.

Fitzroy Square, Dec. 18, 1848.

MEDICAL GAZETTE.

FRIDAY, JANUARY 12, 1849.

The sudden outbreak of cholera in a very severe form at the Juvenile Poor Establishment, Tooting, has during the last week excited considerable alarm in the public mind, and has called for some urgent measures on the part of the Board of Health. The establishment contained 1400 children, from two to fifteen years of age, and up to the date of January 6, there had been in the course of a few days, 229 cases, and 52 deaths. It appears from a statement made by the medical officer, that the disease did not manifest the usual premonitory symptoms of diarrhœa, &c. The children were at once attacked with violent vomiting and purging of a watery liquid,—they speedily passed into a state of collapse, and died with great rapidity, in some instances in two or three hours after the commencement of the attack. Every variety of remedy was used, but stimulants and artificial heat were found most effectual.

A strict inquiry has been made into the facts by Mr. Grainger, and it appears from the evidence of various medical gentlemen who were examined, that within the immediate neighbourhood of the establishment, there are several open ditches of great extent, filled with stagnant filth, and emitting a most offensive odour. The occurrence of the disease was attributed to this atmospheric poison acting under favourable epidemic conditions. It is clear, however, that the attacks would not have been confined to the inmates of this establishment, had there not existed some predisposing causes to render these children more liable than the inhabitants of the surrounding neighbourhood. We gather from the evidence of Dr. Bermingham and others, that the children were not sufficiently clothed to protect them from the sudden and extreme changes in temperature and humidity to which the atmosphere has been lately subject, and that the sleeping wards were too crowded, and not sufficiently ventilated. Their food, although of a wholesome kind, and such as at other times had been found to agree with them, was of too liquid and farinaceous a kind, considering the existence of epidemic cholera amongst us. These facts may suffice to explain the localization of the disease; for we have not heard that any persons immediately beyond the walls of the establishment had been attacked. The registrar of deaths considers Tooting to be the most healthy part of his district.

The collection of filth in the neighbourhood for manuring purposes, was so large, that it was considered to be unsafe to remove it. An order has, however, been given for the removal of the contents of the ditches. Many additional medical officers have been appointed, and a large number of the children—it is said about one-half—have been removed to their respective parishes. These measures will, it is to be hoped, have the effect of staying the progress of the pestilence.

We must question the propriety of removing the children at once to the metropolitan workhouses, which are already sufficiently crowded. The parochial authorities are, however, only acting up to the advice of the Board of Health. The Board have announced that cholera is not communicable under any circumstances: and hence the removal of persons who have been exposed to the disease, can never become the means of its propagation. This view, as we have more than once shewn, is opposed to many well attested facts, but we can only express a hope that it may prove correct on the present occasion. Otherwise, the Board of Health will have the satisfaction of knowing that a strict adoption of their advice has been the means of spreading this malignant disorder through every metropolitan parish. Fatal cases among the children removed, have already shown themselves in the parishes of Chelsea, Wandsworth, Newington, Holborn, and St. Pancras.

Since these remarks were written, many more deaths have occurred among the children removed, especially in the parish of St. Pancras. Two children (belonging to the infant department) who had not been at Tooting, have also been attacked by the disease!

It has been publicly announced, that a second general meeting of the Convention of Poor Law Medical Officers will shortly take place, at the Hanover Square Rooms, to which the metropolitan and county members of Parliament, the profession at large, and the public, are invited. However little disposed we may be to encourage a spirit of agitation, through the excitement of public meetings, there are certainly wrongs and abuses affecting the profession of so deep a dye, with which the public can never become fully acquainted except through a general meeting of members of the profession. To this class of abuses belong the grievances so loudly complained of by the Union surgeons. This body of professional gentlemen, amounting to *three thousand* in England and Wales, administer relief in sickness and destitution, to nearly *three millions* of our pauper population; and yet, as our readers know, from the comments which we have so frequently had occasion to make, they are compelled to perform this labour at great personal sacrifice.

That so many gentlemen should submit to such treatment, is a grave charge against the Poor Law medical staff; yet weightier far is the sin of unfair competition in the profession, which lies at the door of those who greedily step in to accept appointments which their brethren have resigned on public grounds, under a calm sense of injustice and oppression. But since in the moral government of the world there is an inherent tendency in things to right themselves, so there is even in this case some prospect of a remedy. On the one hand, medical men are becoming wearied of a system of competition which is suicidal to their interests; and on the other, the poor are necessarily exposed to much avoidable sickness and suffering, through a system of medical relief based on false economy.

While the Poor Law Commissioners are disposed to grant redress, the Boards of Guardians are resolute opponents of any change which may lead to a more liberal treatment of their medical officers. Although embracing many of the clergy and gentry of the land, the majority of the members of these Boards consist of farmers and tradesmen, who are always disposed to select the lowest contractor, and who value medical skill and labour as they do the supply of provisions for the use of the Union establishments. Had the late Mr. Charles Buller lived, he would most probably have redressed these evils, by removing the whole of the cost and control of parochial medical relief from Somerset House and the Boards of Guardians, to the Home Office and the Consolidated Fund. Without some Central Medical Board, to establish which is one prime object of the Poor Law Convention, we more than suspect that efforts at reform in these matters will turn out a complete failure.

It may be remembered, that when Lord Ashley's Resolutions were under discussion last session, Mr. Buller admitted that the *medical* part of the *question* was the most difficult and delicate to deal with. When the deputation from the Convention of Poor Law medical officers waited upon him, he promised to try and improve the medical entry-books, and the cumbrous registries now required to be kept, adding that "it was his intention, immediately after the rising of Parliament, to take up the whole question of medical relief, with the hope of adjusting what he really felt was the most difficult part of all his responsibilities." In the report of the Convention, published in July, it is well remarked, that "this statement and admission may be taken as evidence of the notice the matter has created in the right quarter, whichmust not be lost sight of by the Poor Law medical officers whose unprotected and precarious interests demand unremitting and vigilant attention, until a satisfactory amendment of the present system be adopted." In accordance with these views, we think the Committee are doing wisely in calling on the Convention to renew their exertions at the present time. The regulations recently issued by the Board of Health, affecting Union surgeons, is another occasion for protesting against more, and a fresh kind of work being thrown on a class of men already oppressed by their heavy and ill-remunerated duties. In our last number we had occasion to point out the great injustice of this proceeding. Let the Poor Law medical staff, and their brother practitioners, now combine to procure redress, by making an immediate and earnest appeal to the new President, Mr. Baines. No time should be lost in impressing the mind of this gentleman with the conviction, that the question of Poor Law medical relief must be entertained without delay; that Union medical officers will not rest satisfied with less than common justice; and that a new and amended law, demanded by the public on behalf of the sick poor, as well as the equitable principles upon which it should be based, were virtually ceded by his talented predecessor, the late Mr. Charles Buller.

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THE deaths registered during the first week of the winter quarter were only 38 above the average. There is an increase in the deaths from cholera, but a considerable decrease in those from typhus and scarlatina. The deaths from cholera up to Saturday last were 61, being twice as numerous as in the preceding week. This has arisen from the sudden appearance of the disease, in a severe form, at the Tooting Asylum for pauper children.

On the 4th inst., the cases in the metropolis were 61, and the deaths 17; on the 5th, cases 19 and deaths 11; on the 8th, cases 26 and deaths 16; on the 9th, cases 22 and deaths 22; and on the 10th, there were 5 cases and 4 deaths.

In the Tooting establishment, there have been, since the commencement, 294 cases and 112 deaths. It is reported that several nurses of the establishment have been attacked by the disease, and died.

The removal of half the children in an apparently unaffected state, has not prevented the cholera from extending itself among them. In the parish of St. Pancras, there have been 78 cases and 7 deaths; and in the Holborn Union there have been 71 cases and 4 deaths. It may be considered as a very fortunate circumstance, if, from the reception of these children in the various parishes, the cholera should not spread over the whole of the metropolis.

The total cases and deaths up to the 10th inst. stand as follows:—

	Cases.	Deaths.
London . .	691	358
Provinces .	426	217
Scotland . .	5761	2523
	6878	3098

ROYAL COLLEGE OF PHYSICIANS.

Dr. Markham was admitted a Licentiate of the Royal College of Physicians on the 21st ult.

ON THE EXTERNAL USE OF IODINE IN CROUP. BY M. WILLIGE.

Dr. Willige speaks of having had remarkable success in the treatment of urgent cases of croup by the external application of iodine to the larynx and trachea. He recommends that tincture of iodine should be smeared with a feather over the front part of the neck, corresponding to the larynx and trachea and their immediate neighbourhood; and that this should be repeated several times, with intervals of about four hours, until redness and irritation of the skin is induced. In most cases this is followed by subsidence of the distress of breathing, of the spasms of the glottis, and of the other bad symptoms. He mentions the particulars of three cases in which, by this means, he succeeded in averting impending death. —*Schmidt's Jahrbücher*, No. 7, 1847.

ADULTERATION OF SALT BY PLASTER OF PARIS.

Two individuals were summoned by the police authorities of the department of the Seine, to answer the charge of having sold table salt adulterated with plaster of Paris. The article in question having been examined by M. Chevallier, was found to contain a considerable proportion of sulphate of lime, and the accused were condemned in a fine of a hundred francs, and costs.—*Journal de Chimie Médicale*, Oct. 1848. x

*** The high duty which is levied on salt entering Paris, renders its adulteration an object with fraudulent dealers, while its greater plenty and freedom from duty in England, renders its sophistication superfluous.

Reviews.

1. *Should the Cholera come, what ought to be done?* By John Challice, Surgeon, &c. Pamphlet, 8vo. pp. 31. London: Renshaw, 1848.
2. *Hints on the probable approach of Cholera;* a letter addressed to Stephen Lowry, Esq., Mayor of Newcastle. By T. M. Greenhow, Esq., F.R.C.S.E., Senior Surgeon to the Newcastle Infirmary, &c. &c. &c. Pamphlet, 8vo. pp. 14. Newcastle: Emerson Charnley, 1848.
3. *The true pathological nature of Cholera, and an infallible method of treating it;* with an introduction, additions, and emendations, in a series of letters. By George Stuart Hawthorne, M.D., late Senior Surgeon of the Belfast General Hospital, &c., and now of Liverpool. Author and original discoverer of the new mode of ventilating hospitals, ships, prisons, and public buildings, by the agency of heat and other works. Pamphlet, 8vo. pp. 64. London: Simpkin, Marshall, and Co., and Churchill; Liverpool: Smith, Rogerson, and Co., 1848.
4. *Diet and Cholera;* showing the vital importance of wholesome diet, and that its impurities and deficiencies are the chief cause of Cholera, with its premonitory symptoms and treatment, in a series of letters, originally intended for insertion in the "Times." By William Barnard Boddy, Surgeon, late medical superintendent of the Cholera Hospital. Pamphlet, pp. 40. London: Highley, 1848.
5. *Observations on Malignant Cholera;* intended to illustrate the natural course of the disease, the natural processes by which a spontaneous recovery is effected, and the mode of treatment best adapted to second the curative efforts of nature. By Andrew Buchanan, M.D., Professor of the Institutes of Medicine in Glasgow, &c. Pamphlet, 8vo. pp. 42. London: John J. Griffin and Co.; Glasgow: Richard Griffin and Co., 1848.
6. *Practical Observations on the nature and treatment of Cholera;* with advice on the precautions to be adopted during the prevalence of the disease.

By G. Hamilton Bell, F.R.C.S.E., &c. &c. Pamphlet, 8vo. pp. 12. Edinburgh: Oliver and Boyd; London: Simpkin, and Co., 1848.

7. *Plain directions for the prevention and treatment of Cholera.* By Thomas Allen, Member of the Royal College of Surgeons of England. Pamphlet, 8vo. pp. 40. Oxford: Vincent; London: Renshaw, 1848.

8. *Five minutes' common sense about the Asiatic Cholera*; or, short and plain rules for the prevention, management, and treatment of the early symptoms of that disease. Intended for the unprofessional reader. By a Fellow of the Royal College of Surgeons of England. Pamphlet, 8vo. pp. 12. London: Reeve, Benham, and Reeve, 1848.

9. *A few thoughts on Cholera, in reference to its origin, the nature of the exciting cause, and the principle of treatment.* By Michael Thomas Sadler, Member of the Royal College of Surgeons, &c. Pamphlet, 8vo. pp. 51. London: Longman, 1848.

10. *The Key of Cholera.* By James William Earle. Pamphlet, 8vo. pp. 28. London: Longman; Norwich: Muskett, 1848.

11. *Some new views respecting Cholera.* By Arthur Leared, A.B., M.B. Pamphlet, 8vo. pp. 50. London: Bailliere; Dublin: Fannin and Co., 1848.

12. *Report by the Acting Committee of the Edinburgh Homœopathic Dispensary, on the treatment of Asiatic Cholera, from October 8th, to October 27th*, 1848. Pamphlet, 8vo. pp. 16. Edinburgh: William Headland.

13. *The homœopathic treatment and prevention of the Asiatic Cholera;* with an historical survey of its treatment by the homœopathic practitioners of the continent, during its last appearance in Europe, in 1831 and subsequent years. By R. E. Dudgeon, M.D. Ed., Member of the Royal College of Surgeons of Edinburgh, of the British Homœopathic Society, of the Pathological Society of London, &c. One of the Editors of the British Journal of Homœopathy. Pamphlet, 8vo. pp. 51. London: G Bowron, 1847.

14. *Revelations of Cholera; or, its causes and cure.* By Samuel Dickson, M.D., formerly a Medical Officer of the Staff in India. Author of the "Fallacies of the Faculty;" the "Unity of Disease;" "Diseases of India;" and founder of the chrono-thermal system of Medicine. Small 8vo. pp. 73. London: Charles Gilpin, 1848.

15. *On the treatment of Asiatic Cholera.* By Archibald Billing, M.D. A.M. F.R.S. &c. 8vo. pp. 15. London: Highley, 1848.

16. *Practical observations on a successful method of treating Cholera.* By C. Patterson, M.D. 8vo. pp. 8. Dublin: Hodges and Smith, 1848.

17. *A few plain directions for the homœopathic treatment and prevention of British and Asiatic Cholera, and also Cholerine.* By Dr. Laurie. 8vo. pp. 16. London: Leath, 1848.

18. *Practical observations on the prevailing epidemic called Cholera.* By James Keir, M.D., Knt., Pt. I. pp. 28. Edinburgh: Watson, 1848.

19. *Etiological, pathological, and therapeutical reflections on Asiatic Cholera, as observed in Europe, Asia Minor, and Egypt.* By A. Henriques, M.D., F.R.C.S.L. 8vo. pp. 44. London: Bailliere, 1848.

20. *The Cholera at Malta in* 1837, from the Italian of Giuseppe Stilon, M.D. &c. By Seth B. Watson, D.M. Small 8vo. pp. 178. London: Churchill, 1848.

21. *A treatise on the cause, nature, seat, and treatment of Cholera.* By James Shaw, C.E.L.L. Pamphlet, pp. 39. London: Simpkin, Marshall, and Co.; Manchester: Jas. and Jos. Thomson, 1848.

22. *A sketch of a popular and a novel treatment for Diarrhœa, Dysentery, and English and Asiatic Cholera;* with illustrative cases of the diseases. By Edmund Skiers, M.D., &c. &c., of the Faculty of Paris, London and Edinburgh. Pamphlet, pp. 91. London: Highley, 1849.

We have placed the numerous pamphlets, of which the preceding are the titles, in, as nearly as we could, the order of their publication. After a careful perusal, we confess that some among them merit a different allocation; but we trust that the analysis of their several contents, which we shall lay before our readers, will enable them to assign to each the rank to which its intrinsic merits entitle it.

1. Mr. Challice's pamphlet, then, first claims our notice. This, in common with many others, is addressed rather to the non-professional, than to the professional public. It answers the question propounded on its title-page, by the recommendation of those prophylactic measures now universally known, if not universally acted upon; such as attention to the general health, caution in the matter of diet, the importance of administering to early symptoms, &c. Addressing himself to non-professional readers, Mr. Challice judiciously abstains from popular directions as to the treatment of the *disease* in every case when set in; and he professes to abstain also from all theories, but our readers will judge from the following quotations how far the author adheres to this salutary determination:—

> "Without entering upon the question of "Infection or Contagion," we will briefly state our deliberate conviction that cholera is not communicable from one living human being to another." (p. 17.)
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> "We have stated our decided opinion against the contagious character of cholera, yet we cannot omit to mention, that the evidence on this point is not so satisfactory, as regards the communication of the disease from a dead body. And there seems strong reasons for believing, that under some circumstances, particularly when decomposition has commenced, cholera may then become contagious. This leads us to the important question, as to how soon after death ought interment to take place. And there could be but one opinion upon this matter, provided there were any absolute sign, or condition, by which the cessation of life could be at once positively ascertained." (p. 30.)
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> "Having thus considered some of the striking symptoms of Asiatic cholera, and made some remarks upon its supposed causes, and of the proper preventive measures, although we have purposely refrained from entering upon mere theories, as out of place in this treatise, which aims only at plain practical common sense; yet it may, perhaps, be considered an omission, if we were not to attempt to give some explanation, or definition, of what cholera really is, and how such violent and rapid changes are produced by it on the human body. We believe it to be a "paralysis of the nerves of secretion," by which those all-important vital functions, the secretion of the urine, and the other fluids necessary to life, are suspended: the blood ceases to circulate, and becomes separated into two portions—one portion coagulates in the large vessels, and the other (the watery with the saline particles) passes from the system, by the bowels and by vomiting. This condition is brought about either by some positive poison, floating in the air, or by some peculiar state of the atmosphere itself. We think the poisonous nature of cholera proved, and that its vital or animalcule character is also highly probable. (p. 31-2.)

Whether these theories,—the first of absolute non-contagiousness of cholera, the second as to the cause of the disease—be sufficiently supported, our readers will be enabled to conclude for themselves.

To set our author's mind at ease on the subject of premature interment, we may refer him to an abstract of M. Rayer's report on the signs of death, in the present number, p. 84.

2. Next on our list, we find Mr. Greenhow's "Hints," addressed to the Chief Magistrate of Newcastle, and instructing him in plain and concise terms as to the sanitary precautions which should be adopted to avert the spread of cholera. On these we need not now dwell. The author asserts positively and unconditionally, that cholera is not contagious; and under this impression advises a measure to arrest the spread of the disease, which we doubt not will startle many, and which some will perhaps even deem impracticable. We will, however, let our author speak for himself:—

> "Such localities are no longer fit for the habitation of man. It is not an occasional visit to them that is to be dreaded, as in the case of the medical attendant, but it is the continued living in, and constantly breathing, by night and by day, the air which is impregnated with the active cause of cholera. Experience has proved that this noxious condition of the air cannot be purified by any artificial or chemical means that have been devised; and it is only by removing to a more healthy situation, on a higher level than the endemic line already referred to, that the inhabitants can be saved from disease and death.
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> "The manner of effecting this migration, or the removal, *en masse*, of the inhabitants of a locality so contaminated, whether by preparing beforehand temporary houses in an airy situation, beyond the boundaries of the town, or by pitching tents in such a situation, on the spur of the necessity, must be determined by Committees of Health and Town Councils, or other authorised bodies; but the propriety of such a measure is enforced by every argument deduced from the

nature and history of the disease, as well as by every consideration of humanity; nor is the economy of such a proceeding less in its favour—whatever might be the cost, it would doubtless be greatly exceeded by that of providing for many sick persons, and for the burial of not a few of the dead." (p. 11-2.)

Mr. Greenhow remarks forcibly on the importance of attention to the purity of the air, of diet, warm clothing, mental and bodily activity, &c., and suggests that the treatment be left to the profession.

3. Dr. Hawthorne's pamphlet consists of a re-publication of a series of letters which appeared in the "*Liverpool Mercury*," prefaced by an instructive outline of the route which this pestilence has traversed from the year 1817 down to the present time. Though leaving the real nature of the cause undecided, the author concludes from its following on the present occasion the same track as on the previous visit, that its cause, whatever it may be, consists in some influence emitted from fissures in the earth's surface :—

> "Above a year ago it again directed its steps in a north-westerly direction, menacing Europe, and tracking, as nearly as may be, exactly the same course which it pursued on the former occasion, confirming the supposition that the destructive element which produces the disease must be forced from fissures in the earth, caused by some subterraneous heaving commotion ;—the fissures from which that element escaped on the former occasion are giving it forth again, from which circumstance we may infer that the progress of the disease over its original track, will be more rapid now than it was on the former occasion." (p. 10.)

Dr. Hawthorne considers its spread to have been effected both by contagion and by epidemic agency. The immediate cause of the symptoms, the author regards as resulting from the effects of the poisonous influence on the brain and nervous system, whereby muscular contractility is diminished, and the vascular system generally becomes relaxed: and hence the copious serous discharge from the *orifices* (?) of the excretory vessels of the intestinal surface, which he regards as merely the effects of gravitation; and to the same cause he attributes the congestion of the lungs, and other organs which follow consecutively. The author's treatment consists of—1. The maintenance of the horizontal posture; 2. Opium; 3. Cordial stimulants; 4. Perspiration. The horizontal posture is to be maintained strictly in order to guard against the gravitating tendency of the fluids. The opium is given in heroic doses—*ten grains to* begin with, for an adult in malignant cholera,—(a dose which would certainly not be safe in all hands,)—with a view to increase the energy of the brain. But on this novel and bold employment of so powerful a remedy, we may quote the following remarks :—

> "Opium is the next remedial agent which claims our notice; and amongst the few remedies which are really necessary in the treatment of cholera, this one holds a most important place. Taken internally, opium increases the energy of the brain; contracts, in a remarkable degree, the diameter of the circulating vessels, which include, let it be observed, the excretory ducts through which the *serum* in this disease escapes ;* and diminishes all the secretions and excretions, except the cuticular discharge, which it increases ;—in all these several respects being most precisely adapted to the requirements of cure in this disease; in all these respects being severally fitted for restoring the tone and energy of the brain, for resisting the determination of the fluids to the internal surfaces, and for counteracting the effects of the vascular depletion, which is sometimes so excessive; and these are precisely the objects, upon the accomplishment of which the cure chiefly depends. And these objects, opium, in conjunction with the other remedies I prescribe, more especially perspiration, will effectually accomplish.
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> "I wish it, however, to be particularly understood, that the success of this remedy depends upon its being administered in sufficient quantity; and that the amount of the dose required in each particular case depends entirely upon the malignancy of the symptoms, &c., that is, upon the extent of the nervous prostration, the rapidity with which the serous fluid seems to escape, and the extent to which the vascular depletion may have gone. To this fact I would again solicit the most pointed attention, as it was from inattention to these truths that the fatal results of the general, and, I may say universal, practice in that disease arose." (p. 26.)

Cordial stimulants are prescribed to aid in supporting and stimulating the nervous energy, and promoting absorption. Perspiration the author regards as almost equal in importance to the other means, by its tending to reverse the determination to internal organs, and by its assisting in promoting absorption of fluid from the surface of the intestines.

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* Has Dr. Hawthorne found serum in these discharges? We are inclined to think that this statement is based on theory, and not on actual observation.

"My mode of treating cholera differs from every other which has yet been placed before the public. But the grand distinguishing feature, in which it stands alone, is the employment of the powerful agency of perspiration, as a means of cure. This agent has never been recommended as such by any other. It is, in fact, by perspiration the disease is cured. The opium, which is in itself such a valuable and necessary agent, and the other auxiliary medical and cordial stimulants, act merely as handmaidens to this sovereign remedy. The opium and cordial stimulants supply the place of an anchor, in holding on the barque of life, and in arresting the fatal course of the disease, till the perspiration not only corrects the diseased action, but also repairs the injury which the system may have sustained." (p. 35-6.)

Dr. Hawthorne in the strongest terms deprecates the use of bleeding, or calomel, in the treatment of cholera.

The author concludes with the recommendation of dispensaries and the other precautionary means advised by the Sanitary Commissioners, and appends several local testimonials in proof of the success of the treatment, which he so confidently asserts renders the disease *curable in every case*, short of absolute collapse.

4. Fourth in our catalogue stands Mr. Boddy's letters to the "Times," enlarged by re-publication into a pamphlet. The author's object is to enforce the importance of deficient or bad diet, as a cause of the disease, and its improvement as a prevention; and while concurring in the views of the Sanitary Commission in most of their precautionary measures, our author differs from them as to the causes of the spread of the disease,—disregarding defective drainage, ventilation, &c., except as ancillary. He cannot be considered to agree that the disease is non-contagious, neither does he assert its contagiousness, but he attributes it almost entirely to errors of diet, and prescribes aperients, in order to carry off the supposed cause. If, however, improper diet were as much the cause of the disease as the author believes, it should be more constantly present with us: a something is undoubtedly superadded to the predisposing conditions of bad food, bad air, &c. &c. We may give the author's views in his concluding paragraph:—

"That the main cause of this fearful complaint is to be attributed to impure or deficient nourishment, in conjunction with a constitutional bias: that the symptoms constituting diarrhœa are depending thereon; and, if unchecked, the collapsed stage to which they tend has invariably been preceded by them: and, moreover, that the final attack, called "Asiatic Cholera," because it was first manifest in that part of the earth, is a new type as regards the results, and therefore is the sequel and not the disease; consequently is not depending or produced by locality, noxious effluvia, impure drainage, marsh miasma, or any other circumstance whatever; although, it is admitted, they may, by debilitating the powers of life, render it a little more susceptible. That an early attention to the symptoms is the only time we have within our power to check the results so much to be dreaded; inasmuch that any attempt at cure, when the last stage has set in, which is characteristic of death, is never to be depended on:—prevention, therefore, is everything—the cure, alas! nothing." (p. 40.)

5. Dr. Buchanan's pamphlet is exclusively addressed to members of the profession, and is based, with philosophic caution, only upon what the author himself has witnessed of the disease. The experience derived from extensive hospital practice, during the visitation of 1832, in Glasgow, has furnished Dr. Buchanan with his knowledge of the disease, from which he indignantly repudiates the opinion that we are as ignorant of its nature or of the method of curing it, as we were before that period; and it is, indeed, an unfounded and uncalled-for self-condemnation to admit such ignorance.

"One object, indeed, which the author has in view in republishing the following memoir, is that he may be able to put it into the hands of his pupils in the University of Glasgow, to illustrate the utility of the humoral pathology in explaining the phenomena of disease; as he has long been in the habit, in his Course of Lectures on the Institutes of Medicine, to refer at some length to the subject of cholera, for the purpose of showing that there can be no genuine system of pathology which does not derive its fundamental doctrines as well from the altered condition of the fluids of the body as from the deranged structure and action of the solids."

"Past experience has made us acquainted with many remedies and modes of treatment in cholera, which are worthy of our confidence, and which require only, as every good remedy does, the judicious adaptation of time and circumstances to render them useful. Experience has taught us, also, what is not less indispensable to be known for the successful treatment of every disease, not to estimate too highly the innumerable remedies and modes of practice which have been unwarrantably recommended, and which, on being fairly tried, have been found unworthy of reliance; many of those so recommended in cholera having turned out to be absolutely injurious, while others merited only the negative praise of being *harmless*, a character scarcely less condemnatory of them than the former, in a disease that leaves no time for trifling." (p. 5-7.)

Dr. Buchanan then proceeds to describe the course of the disease by a succinct, clear, and connected arrangement of the order of succession of the symptoms. This is a part of the subject far from being equally carefully described by many authors, although the symptoms usually "succeed each other with remarkable regularity," and indicate the different periods of the disease. These the author names respectively—

"The diarrhoeal, the leucorrhoeal, and the cholerrhoeal periods of the disease; or simply the feculent, the albuminous, and the bilious periods of the disease: these names expressing the kind of discharge which occurs in each. A fourth period, the haemorrhoeal, in which the discharges are bloody, is also observed in many cases, but it can scarcely be accounted a regular part of the disease. Perhaps, indeed, there are, in strict propriety, only two periods of the disease: the first marked by a preternatural exhalation from the gastro-intestinal membrane, the second by an increased bilious discharge."

"The changes that take place in the circulation, in the respiration, and in the function of animal heat, constitute a class of symptoms still more prominent, and not less important than those I have just described. Diminished vigour of the heart and arteries, and a reduction of the temperature of the body, may be considered as constant concomitants of the first and second periods of the disease, except in the mildest cases." (p. 13-14.)

The phenomena observed in the re-establishment of the circulation, suggests comparison with certain cases of hypertrophy of the heart, in which the latter and the larger arteries act with great vigour, or even violence, while the smaller arteries do not participate therein.

"The respiration, in so far as it consists in the mere mechanical inhalation and expulsion of air from the lungs, seems to be one of the least affected of all the bodily functions. There can be no doubt, however, that the respiration is, in reality, deeply involved in the disease. The patient gasps for breath, and, although the air is inhaled and exhaled freely, he seems as if he were breathing an irrespirable atmosphere, as I believe to be virtually the case,—the air inhaled being no longer capable of producing the necessary chemical changes on the blood." (p. 17.)

It will be seen from this paragraph, that Dr. Buchanan does not attribute to the arrest of the respiratory function so important a share in the etiology of the disease as is allotted to it by Dr. Parkes. The author so freely and closely examines each symptom that it is impossible, in this brief notice, to give our readers as full an abstract of his views as we could wish. We must therefore refer to the essay.

In the author's outline of the post-mortem appearances found in this disease, he gives those which have been so frequently or invariably observed as to entitle us to conclude that they are intimately connected with the diseased actions in which cholera consists. There was paleness of the mucous membrane of the intestines, with accumulation of thick black blood in the heart and larger vessels, distension of the gall-bladder with thick black bile,—also distension of the intestines with a mixture of albuminous, bilious, and sanguineous matter; and rigidity of voluntary muscles.

On the nature and cause of the disease, Dr. Buchanan gives it as his opinion—

"That cholera is essentially a disease of the fluids of the body. I shall endeavour to show that the principal symptoms admit of a satisfactory explanation from the obvious changes that take place in the constitution and qualities of the blood; but I shall at the same time bear in mind, that such is the intimate connection between the animal solids and fluids, that no disease can be referred exclusively to either of them: the solids cannot act without modifying the constitution of the fluids, and the fluids cannot be altered without involving the action of the solids." (p. 22-23.)

Its remote cause he deems most probably a miasmatic poison floating in the atmosphere, and received into the lungs by respiration.

The blood becomes changed in its qualities rapidly, in proportion to the extent of the intestinal discharges, and then becomes incapable of arterialization;—this altered state of the blood the author regards as the cause of the changes observed in the respiratory functions,—a conclusion at which he arrives from a consideration of the physiological relations of the several parts of the respiratory act, and from observations of the want of action of the air on blood drawn from cholera patients.

The natural processes by which a spontaneous recovery is effected, are chiefly — 1st, the re-absorption of serum from the cellular substance and great serous cavities; 2d, the absorption of fluids from without; and 3d, the excretion of bile.

We are not able to follow the author through his account of the stage of reaction, but must bring our remarks to a close by adding, that in the treatment of this disease, Dr. Buchanan employs venesection occasionally in the diarrhœal and leucorrhœal periods, combined with opiates, diaphoretics, and calomel in small doses. Although we do not concur in Dr. Hawthorne's entire condemnation of calomel in this disease, we incline to the opinion, formed from our own experience, certainly more limited than that of either of these gentlemen, that small and repeated doses of calomel, with other means, have often been attended with the most beneficial results. We should, however, hesitate to bleed in any case.

We think that our readers will be enabled to judge, from the length to which our notice of Dr. Buchanan's pamphlet has extended, of the estimate we place upon it as a most valuable contribution to our knowledge of the pathology, and therefore of the proper treatment, of this disease.

6. Mr. Bell's pamphlet is a judicious address to the public on the means of avoiding an attack of cholera, and of remedying it, so far as may be safe, without professional aid.

7. Mr. Allen's "Plain Directions" are well suited to the purpose for which they are designed, viz. the guidance of clergymen and others, who, from circumstances, are obliged to assume occasionally the functions of the medical man. They contain, clearly set forth, all the information and instructions which can possibly be of service in such emergencies; and over and above these, among the preventive means, which all may adopt for themselves, there is an advice no less valuable than unfrequent:—

> **"Daily prayer to Him in whose hands are the issues of life and death, health and disease.**
>
> **"Prayer is rewarded by a confidence which drives out fear, as well as by protection in times of peril."** (p. 16.)

8. The "Short and Plain Rules" contained in this little pamphlet may be extensively useful, if the advice to lose no time in sending for a medical man be also attended to.

9. Mr. Sadler's pamphlet has for its object to show that the specific cause of malignant cholera is some secret emanation from the lower parts of the earth, and that this is probably some agent analogous to electricity: that, like all other epidemic diseases, as pointed out by Sydenham, it may extend also by contagion; and lastly, that simple diluents, as water, are demanded, as well by the pathological state of the system as by the instincts of nature.

The facts adduced, and reasoning pursued by the author, while sufficient to establish the epidemic character, are also decidedly adverse to the positive assertion of the Sanitary Commissioners, that the disease is in no case contagious: the truth here, as in every other debated question, lies between the two extremes—an epidemic disease may become contagious, and an admitted contagious disease, like scarlatina, may, as at present, become epidemic.

The author examines the animalcular theory, and justly considers it "to be alike unsupported by facts, reason, or experience."

Mr. Sadler also similarly disposes of other theories; but we must observe that remote analogies and obscure inferences are at present the only grounds of the telluric hypotheses. We will not be so bold as to deny the hypothetical cause, but we should like to possess facts in its support before we receive it: the demonstration of the vagueness of one theory, it must be borne in mind; is not equivalent to the establishment of the truth of its opposite. The question, however, is ably argued by the author, and we cannot do better than refer to it those who desire information on this much disputed subject. Under the head of treatment, the author strongly advocates the free exhibition of water, but, at the same time, he overlooks the observations of others when he states that little importance is attached to it: we think he will find the free use of diluents is a *principal* subsidiary means in the hands of many.

The author has, in our judgment, done some service by the publication of his observations.

10. By the "Key" of Cholera, we *suppose* Mr. Earle means the right mode of treatment, since his remarks are almost exclusively addressed to a condemnation of the directions under that head put forth by the Sanitary Commissioners. He reprehends the exhibition of astringents in the early stages as being founded on erroneous views of the pathology of diarrhœa: he *maintains that* warm aperients are the *remedies* which should be employed at *first*, followed by bloodletting, and calomel and opium in small and repeated doses if the disease advance beyond diarrhœa, with the application of sinapisms to the whole surface of the trunk.

11. Whether the contents of Dr. Leared's work answer to its title of "New Views respecting Asiatic Cholera," we shall leave to be decided from the author's own conclusions:

> "1. That the proximate cause of the phenomena of cholera is the separation and loss of the serous part of the blood.
>
> "2. That many of these are such as bear a near resemblance to the symptoms of excessive hæmorrhage, thereby showing a close analogy in their production.
>
> "3. That some which have been regarded as special are in reality secondary to the foregoing lesion, owing to the consequent obstruction of the circulation.
>
> "4. That the separation and depletion are effected, independent of secretion, by a physical process, the depletion being through the medium of the gastro-intestinal mucous surface.
>
> "5. That it is probable that the external moisture thrown out upon the skin is of similar origin and constitution with the fluid in the intestines.
>
> "6. That the more remote cause of the disease consists in certain disturbances in the electricity pervading the earth and its atmosphere.
>
> "7. That the first effect of these upon the organism consists in congestion, and that this commences, and is most marked, in the portal system. The second being the calling into action of the morbid process alluded to.
>
> "8. That the disease has no connection with inflammation beyond its occasional occurrence as a secondary effect.
>
> "9. That almost every circumstance connected with it precludes the idea of contagion." (p. 49-50.)

12. This "Report" contains a few cases "not adduced as evidence of the propriety of the treatment, whether successful or otherwise, as the medical officers are quite aware that any opinion formed on so short an experience must necessarily be premature, and probably fallacious:" the number of cases reported up to October 27, being seventy-seven, of which forty are stated to have recovered.

13. Dr. Dudgeon's pamphlet contains very full historical accounts of the progress of the homœopathic treatment on the Continent, accompanied with copious tables, which give results of course entirely in favour of homœopathy.

Our readers will, perhaps, like to be informed as to the remedies employed under this "system."

> "At the very commencement of the disease, when it is ushered in by general and sudden prostration of the strength, tonic cramps in the muscles of the extremities and abdomen, diminished temperature of the surface, blueness or marbled appearance of the skin, anxious expression, and the peculiar and characteristic sound of voice which has been designated the vox cholerica, together with tumid abdomen and much borborygmus, diminished secretion, or suppression of urine, – one or two drops of the camphorated spirit are to be given every five minutes until benefit is perceived, or until the disease assumes another form, to which another remedy is applicable: this state may last from twenty minutes to as many hours.
>
> "Occasionally, however, this stage is not observed, and the disease assumes at once the characteristics of the second stage, or the physician may only be summoned when this stage is present. When much vomiting and diarrhœa are present, the matters evacuated being watery and colourless after a time, with excessive pains in the abdomen, great anxiety, oppression of the chest, cold

clammy sweat, cramps which assume a clonic character,—veratrum is the remedy to be chiefly relied on; if the cramps are predominant, and the vomiting not excessive, cuprum will be generally found useful, or if not, secale, more particularly if the diarrhœa is excessive, the evacuations unnoticed and colourless. Arsenicum is to be used if the burning pains in the stomach and bowels are chiefly complained of, and the evacuations are of an acrid, burning character, the thirst being at the time unquenchable, and the anxiety and fear of death very great, with excessive restlessness and great oppression of the chest. If at first the evacuations should appear of a very bilious character, or if this should occur towards the end of the disease, chamomilla or tartarus emeticus will be found advantageous. When, in the progress of the complaint, the vomiting assumes the upper hand, the severity of the other symptoms having declined, ipecacuanha must be used: when the pectoral muscles are the chief seat of the spasmodic action,—when there is an approach to coma, and the eyes are spasmodically turned upwards,—cicuta is to be employed; and if the symptoms indicate an apoplectic or asphyxiated state, laurocerasus or acid. hydrocyanicum, followed by carbo vegetabilis, is indicated. If vain efforts at stool, with little evacuation, should occur, nux vomica will be found invaluable; and if a dysenteric character of the evacuations should occur, mercurius is the remedy to be trusted to. When symptoms of irritated bladder and urinary tenesmus manifest themselves, cantharides cannot be dispensed with. If a tendency to inflammatory action in some of the internal organs manifest itself after the disease has run its course, aconite will be useful; and if there be a determination to the head, belladonna. Should the disease, from neglect, or from its occurrence in a cachectic individual, resolve itself into a low typhoid febrile state, this must be combated by rhus, bryonia, or acid. phos., according to circumstances. Lastly, should the physician only be called in after the patient has been subjected to many allopathic appliances and domestic remedies, it will be advisable to administer a few doses of camphor before proceeding to give the remedy most particularly indicated by the symptoms present.

"In the so-called cholerine, which is prevalent during an epidemic of cholera, acid. phosphor. or secale will generally suffice, but other remedies must be employed if indicated by the symptoms." (p. 41-3.)

From the author's statement, we learn that most of the worst cases died, and of many which recovered, we should find it difficult to distinguish them from cases of English cholera, which would have yielded to the subsidiary means employed. It appears, also, that the disease was on the decline in many places where the "system" was tried. Whatever may be the result of a case, the friends of a patient cannot complain of any want of variety in the treatment!

14. Dr. Dickson's small book, with a preface by an "Editor," contains, relative to cholera, little that cannot be found elsewhere: in fact, the author quotes largely from many writers on cholera, which would seem matter of surprise, when we remember that Dr. Dickson, in a previous work, charges ignorance upon the whole profession but himself, and deems it his mission to found an entirely new "system." We would ask Dr. Dickson, what connection has abuse of the College of Physicians with the treatment of cholera?

15. Dr. Billing's name attached to any work is sufficient to command for it more than ordinary attention; and it is therefore not without considerable hesitation that we venture to call in question the opinion of so excellent a pathologist and physician. We are sure that Dr. Billing would be the first to desire that any proposition which may emanate from himself, should be subjected to the most rigid examination.

In the following extract we find the substance of Dr. Billing's theory of the pathological nature of cholera:—

"In the work just mentioned, my views are entered into at some length: here, for the present, I may simply state that cholera is a species of fever. This is already granted by some; to others, who hear it for the first time, it may seem a startling assertion, and, until they are convinced, it will of course be difficult to induce them to use the proper remedies, namely, fever medicines, and to avoid what is hurtful, *i. e.* stimulants.

"Ague is a kind of fever, so is smallpox; the cold shivering produced by internal inflammation is a febrile state. How different is the first accession of these diseases to what occurs afterwards; yet not more unlike than the first cold stage of cholera to the second or *febrile* state, which at first was not recognised, because so many died in the previous cold stage; and even in those cases where death did not occur until the febrile heat commenced, the medical attendant, being generally a novice in this disease, supposed that this (in reality febrile) heat was a beneficial result of the stimulants he had administered.

> "The cold stage of what is called "fever and ague" is as like cholera as may be,—cold surface, shrivelled skin of hands, livid face, crampy pains in the limbs, pain in the stomach, headache, faintness, nausea or vomiting, and sometimes diarrhœa, in which case, of course, little or no urine is passed." (p. 4-5.)

As we cannot, either from our own experience or from the recorded observations of authors, recognise the similarity which Dr. Billing here assumes to exist between cholera and fever, we may be pardoned for endeavouring to point out to our readers where we think the resemblance holds, and where it fails. We admit that there is a strong analogy between the collapse of cholera and the cold stage of ague; that there is a resemblance, though in a very much smaller degree, between the consecutive fever of cholera and the hot stage of fever; but the circumstances are very different in the two cases: in ague the severity of the hot stage bears a relation to the depression in the cold stage; in cholera there is no such certain relation observed, neither is the reactionary fever observed with anything approaching to the regularity with which the hot stage follows the cold stage in ague: lastly, the cholera exhibits no phase corresponding to the sweating stage of ague. In cholera the law of periodicity has never been observed, which constitutes the most prominent feature of ague. In ague, the premonitory symptoms constituting an integral part of cholera are not observed. In ague, the febrile symptoms are of an active character, and to be treated accordingly; whereas in cholera the consecutive fever most frequently assumes a typhoid character. The beneficial exhibition of stimulants in moderation confirms the opinion that, if the disease partake in any degree of a febrile character, it is rather that of a typhoid than of an intermittent type.

The mode of treatment recommended by Dr. Billing is extremely simple, consisting chiefly in the administration of two grains of tartarized antimony and half an ounce of sulphate of magnesia dissolved in half a pint of water, of which a table-spoonful is to be given every half hour. On this part of the subject we urge our readers to refer to the pamphlet. The result of this plan of treatment has been most gratifying to the author; but, as we read the same with regard to every advocate of different remedies, we shall not, we think, be deemed wanting in the respect due to Dr. Billing's reputation, if we desire yet further data for the determination of the most certain method of cure.

We may just add that Dr. Billing, in common with so many eminent physicians and surgeons, sees much ground for reprehending the notifications of the Sanitary Commissioners, both as regards the question of contagion and the matters of diet, remedies, &c.

16. Dr. Patterson's remarks, which have already appeared in the *Dublin Medical Press*, are intended to bring before the profession a method of treating the disease which he found eminently successful on its former visitation: it consists in the injection of astringent saline solutions into the rectum.

> "From the very onset, and in the first case that presented itself, that treatment consisted in the carrying out of the views I have already stated. I combined the employment of calomel, for the purpose of expelling the poison from the system, with the administration of the compound sulphate injection above described, for the purpose of restraining the discharges until the calomel should have time to act; and I proceeded thus:—When a patient passing dejections resembling rice-water presented himself, I at once placed on his tongue five grains of calomel, and gave thirty drops of tincture of opium, and then, without a moment's delay, a nursetender, who accompanied me, threw a wine-glassful of the compound sulphate enema solution into the rectum; generally the injection was immediately returned, with a large discharge of watery liquid, the contents of the rectum. The nurse, then, being instructed, without a moment's delay threw up a second similar injection, which was, in most cases, retained by an effort of the patient's for a few minutes, and then came away, accompanied by a few ounces of the watery discharge. The nurse then instantly again repeated the injection, which being within a few minutes returned without any addition, she ceased to throw up any more.
>
> "At my next visit I was in most cases met with the complaint that the patient was extremely bad, "worse and worse," "going (or rather running) to the vessel every minute;" but, on further inquiry, this running to the vessel always turned out to be

> nothing more than a troublesome tenesmus. The watery discharge was completely arrested, and the patient was not passing a particle of even liquid feculent matter. He was told that this state was what was desired, and was encouraged to bear with it.
>
> "The tenesmus generally continued for a few hours, and then gradually abated, and in the great majority of cases there was no return of the watery discharge; while, at the end of every four hours, five grains of calomel were regularly placed on the tongue, until after three or four, or perhaps six or eight, such doses, the patient had a semi-consistent dark-green or black biliary motion, followed by others of a similar nature. These stools presenting no curdy appearance, as of a watery liquid separating from a thicker biliary matter, left no doubt that the cholera state was at an end. The calomel was then discontinued, whether the gums had become sore or not; and thenceforward, under the usual management, every such case in this visitation of the epidemic did well." (pp. 4-5.)

17. Dr. Laurie's directions are certainly "plain" enough for all who may have sufficient confidence in homœopathic remedies and infinitesimal doses. We therefore recommend them to those whom they may concern.

18. Sir James Keir, who witnessed cholera in Moscow in the years 1831-2, has here given the results of his experience. The author's remarks on general prophylactic measures do not differ from those of the ordinary character, but his views with regard to treatment are decidedly at variance with those of many other practitioners. Purgatives, bleeding, and vapour baths are among his chief remedies. The aperients ordinarily in use are advised to be continued in the first instance; beyond this, calomel, rhubarb, ipecacuanha, and enemata of senna, or other purgatives.

With respect to venesection, the author observes—

> "The next remedy requiring consideration is the important one of blood-letting. Treatise, Sect. VI.—*General bleeding, when to be used, and how practised.*—When the primary symptoms only have shewn themselves, such as uneasiness in the head, or at the pit of the stomach, or where the disease has assumed the form of an ordinary diarrhœa (looseness), it will be a prudent practice, especially in the young and plethoric, to take some blood from the arm; and, as the object here in view is not the diminution of the tension of the system, as in inflammation, but the subtraction of a part of the mass of blood already become oppressive, or soon likely to become so, by its quantity and unnatural qualities, as also by its undue determination to the internal organs, so the doing so by a moderately sized opening in the vein will be the safest practice: it must not be too small, otherwise the difficulty of drawing blood, which is always experienced when the disease has made some progress, might thereby be increased, and frustrate our purpose.
>
> "As the blood loses a large portion of its serum (thin part of the blood) by the evacuations, it becomes proportionally thicker, and more disposed to coagulate; and as its progress to the heart becomes also slower by the nature of the disease, so it is often no easy matter to draw off a sufficient quantity.
>
> "The proportion to be drawn must depend on the circumstances of the case; but unless it be sufficient to relieve the oppression of the circulation, and to enable the heart and arteries more easily to contract and propel their contents, it will be of little use." (pp. 20-21.)

19. Dr. Henriques' observations are deduced from an extensive acquaintance with the disease in various parts of the world. One of his first propositions, under the head of treatment, affords, in connection with Sir J. Keir's *orders*, an apposite example of the contrariety of views which are held in regard to this subject. "On no account should purgatives be administered." (p. 9.)

In speaking of the stage of collapse, the author observes—

> "1. That there is at present no specific for the cure of cholera.
>
> "2. That all medicinal agents administered internally during this stage are utterly useless, and, for the most part, highly injurious.
>
> "3. That it is by and through the skin only that a salutary reaction might be obtained." (pp. 13-14.)

One of the earliest measures our author adopts in this stage is a large blister to the epigastrium, and the injection of the decoction of cinchona into the bowels; at the same time, dry friction over the surface of the body and extremities.

The author adopts the opinion that cholera is a miasmatic congestive fever, and regards Peruvian bark and its preparations as the remedies to be relied upon.

"But if it is impossible, as we have

shewn from the foregoing, to demonstrate the essential cause of cholera morbus and congestive fever, it is nevertheless indisputably true, in an historical point of view, that both owe their origin to miasmatic poison, which emanates from flat marshy and jungly tracts situated in the neighbourhood of large rivers, or at the foot of mountainous districts; and being thus generated, they are subjected to the influence of changes of temperature and other inappreciable meteorological conditions, and then wafted by the wind from place to place according to laws as yet unknown to us." (pp. 24-5.)

We may remind our author that many other talented observers see in the progress of cholera only the track of certain fissures in the earth's surface emitting poisonous exhalations, which they regard as the cause of the disease. We confess we think the proofs to be entirely wanting to the latter theory. But while the former is supported by many facts in the history of the propagation of this disease, it is equally opposed to others. (We may refer to page 1108 of the last volume of this journal for a fact of this opposite character.)

The author's parallel between the phenomena of cholera and congestive fever is ingenious and interesting, as pointing out the *differences*, as well as the resemblances, of the two conditions, especially with reference to internal congestions, the state of the respiratory functions, animal heat, intestinal evacuations, intellectual powers, cramps, colour of skin, state of tongue,—in all these features, and in others also, there are points of resemblance, and obviously great differences; but where a resemblance may be traced, the severity in cholera is so far out of all proportion as, in our opinion, to *destroy* the analogy of the two classes of disease for the purpose of scientific classification or practical deductions in their treatment. The pathological anatomy of cholera will bear out our opinion—discolouration of the mucous membrane of the mouth, and even of the teeth; discolouration and softening of the mucous membrane of the stomach and intestines, with distension from gases, and containing fluid similar to the evacuations; the intestinal follicles sometimes enlarged; spleen shrivelled and bloodless; liver merely congested; gall-bladder distended; urinary bladder contracted and empty; lungs gorged with black blood; right side of heart filled with black blood and fibrinous coagula; brain normal; meninges congested. We have followed the author's own enumeration of morbid appearances, and we think that a comparison of these with the same class of phenomena as occurring in congestive fever, even from the author's enumeration of these also, establishes differences of vital importance existing among only general resemblances.

Though not convinced by the author's reasoning, in regard to his views of the pathology of cholera, we are convinced by his facts, and their presentation, that his pamphlet is highly interesting and valuable, and that it will well repay perusal.

20. Dr. Stilon, a native of Calabria, was in the British naval medical service, and, afterwards graduating, settled in practice at Malta. His pamphlet, which contains an account of the epidemic of cholera in the year 1837, contains a very complete account of its features as then and there exhibited. We notice chiefly the very large doses of calomel given by this physician, in one case amounting to eleven hundred and sixty grains! At page 44 we find that the frightful effects said to have been produced by large doses of calomel were not met with by Dr. Stilon:—

> "Although it had been feared that the calomel, even after having cured the epidemic, might produce consequences injurious to the animal economy, I can positively assert that, of all these individuals who under my care were cured by means of calomel, no one has to this day suffered the least inconvenience from the effects of that remedy: on the contrary, some of them enjoy a better state of health than they did previous to the attack; and it is a circumstance particularly remarkable, that of the immense number of cholera patients who were cured by calomel, not more than 40 underwent salivation, and even of these very few suffered it to a serious degree." (pp. 44-5.)

The letter from Sir John Stoddart, which Dr. S. Watson has attached to his translation of Dr. Stilon's work is extremely interesting in reference to local circumstances influencing the spread of cholera. In Malta, at least, the disease cannot be said to have arisen or to have derived force from miasmatic agencies:—

"The greater part of the island is nearly plain, with gentle undulations. There is little foliage or herbage, and no pools or running water, and consequently few spots troubled in any degree with malaria, the fertile cause of epidemics in most other warm countries." (p. 5.)

21. Mr. Shaw (the meaning of whose titular letters we are unable to decipher), has brought together a selection of quotations from Liebig's Animal Chemistry, and from Dr. Fletcher's physiological writings, to which he appends a running commentary, embodying the information he possesses on the subject of cholera. As the result of this pathologico-physiological comparison, we arrive at the author's opinions on the several points denoted on his title-page.

The predisposing cause the author supposes to be found in an asthenic condition of body induced by the damp state of the atmosphere, and the presence therein of animal and vegetable effluvia, and exhalations from the earth. The exciting cause of cholera, according to Mr. Shaw and others, is a *something* conveyed in the air from one country to another. The author's conclusions, as to the nature and seat of the disease, are thus summed up :—

"*What, therefore, is Cholera?*

"It is an abnormal condition, of an asthenic character, of the ganglionic nervous system, of which condition, the cerebro-spinal system in some measure partakes—disabling it from propagating to the organic, muscular, and other apparatus of the body, the customary irritability necessary to the performance of the functions of life.

"And its effects and manifestations are—An impeded circulation, with suspension of the functions of the lungs and skin, and of the secretions; total loss of animal heat, muscular irritation, spasm, and frequent vomiting and evacuations of the serum of the blood; speedily terminating in suspension of vital motion, exhausted motion, and death.

"The name best indicating its true pathological origin, would be—Cholera asthenia." (pp. 25-26.)

Mr. Shaw's treatment consists in endeavours to arrest the evacuations, to maintain or restore the temperature of the body, and to increase the nervous energy: the means he employs are opium, acetate of lead, and ether.

Mr. Shaw's observations on the employment of blood-letting in the stage of collapse are forcible and judicious.

"It is here more than ever necessary to bear in mind the almost entire absence of vital force. To bleed in this stage, either locally or generally, would indeed be to avoid Charybdis and fall upon Scylla.

"The only possible good that can be presumed to be derived from bleeding, is by taking from the circulating system a portion of its contents: there would be less to be propelled, and require less effort for its propulsion, and whereby afford some chance of restoring the circulation. But when it is considered that the blood has already suffered great diminution in quantity, from the abstraction of its fluid part—the serum—that from the toe, and finger ends, through the entire body to the scalp, the blood is in the same thickened condition—and that its course is obstructed by action—spasm—not the result of too much, or of suppressed energy, but of ill-directed energy, the result of general deficiency ;—in fact, by an energy of action, plundered, as it were, from the whole system, as is manifested by the cessation of all organic functions,—it will be at once admitted that no good whatever can by any possibility be hoped from the abstraction of blood in the cold spasmodic stage.

"Indeed, the matter resolves itself into a very simple question—Whether would it be better to abstract blood impeded in its course by a condition of the body its abstraction would in no way tend to remove, or to remove the condition of the body causing the impediment, and allow the blood, of which there is not too much, to remain in the system ?" (pp. 29-30.)

We quote also the following as important in reference to blood-letting, as well as the general treatment in this stage :—

"To raise the temperature of the body, and promote a free circulation of the blood, are here the important primary considerations. Without the former, even a temporary manifestation of increased vitality is impossible. It is known that heat is conveyed to all parts of the body by the blood, and in those who die in the collapsed stage, we have seen in what a condition the blood is found. To attempt, therefore, by the internal administration of remedies alone, either by the stomach or anus, to excite the circulation, and thereby increase the temperature of the body, would be to let the patient, as is often the case, die." (p. 30.)

Our experience of the employment of acetate of lead in English cholera, does not lead us to place the confidence in it which the author expresses.* In

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* We elsewhere publish a remarkable case in which the use of lead appears to have been highly beneficial. See Mr. Tatham's case, p. 81.

Asiatic cholera we have found that calomel in small doses, with opium, is the most trustworthy remedy; but we give our author's explanation of the action of lead.

> "It is to be remembered the system is going into decay, and the stomach, bowels, and muscular system generally, are in a state of great irritation and excitement. Lead acts in the body by entering into direct combination with its structure, and arrests the progress of the change of matter—decay; and it is known to restrain muscular action, even to paralysis;—and by these properties it is that it is so useful, in combination with opium, in restraining the action of the bowels and fluid evacuations." (p. 34.)

This, it will be seen, is a hypothetical chemical explanation, which, like too much of the chemical pathology of the present day, we are required to take for granted without demonstration. Although this pamphlet consists entirely of chemical theory applied to pathology, it may be read with profit by those amongst us who will receive general conclusions with due caution.

22. The epithet "popular," as appropriated by Dr. Skiers to the novel mode of treatment which his pamphlet is intended to teach, is, we suppose, from the style of its contents, intended to inform the non-professional public that it is written for their especial benefit.

A somewhat grandiloquent preface would seem almost to let us into the secret of the shortcomings and misdoings of the "Board of Works," miscalled the Sanitary; the author's manuscript was forwarded to them *pro bono publico*, and returned, probably unread, although accompanied by a gold medal with which it was honoured in Paris in 1832, as the title-page informs us.

The grand novelty in the treatment we find to be an "antiperistaltic powder," composed of gum tragacanth, gum arabic, starch, and bicarbonate of soda. This is either to be given by the mouth, or blown dry "up the bowels" (rectum?).

The author's remarks on the nature and seat of cholera partake of the character of philosophic doubt; but the principles which he lays down for the management of a case, although not new, are sound and safe, if accompanied, we think, with other remedies than the "antiperistaltic powder."

Dr. Skiers approves of the administration of cold drinks internally, if accompanied by judicious means of maintaining the temperature of the surface of the body. He objects to frictions of the body or limbs, as interfering with the complete quiet, which he deems of vital importance: in lieu thereof, Dr. Skiers recommends a "monster epithem."

> "The monster epithem, to do its office in extreme and severe cases of algide blue cholera, must—1st, cover, from the fore part of the neck, the stomach and bowels, down to the thighs, covering the pubis. It should be made of well-boiled meal, bran, chaff, or any of the means already enumerated, and it should be about two inches thick in a cloth; the cloth being well powdered with the flour of mustard, if possible, or something at hand stimulating—as pepper, wood-ashes, brine-salt, the pulp of garlic pounded, or horse-raddish, oil of turpentine, strong vinegar, salt, &c.; but a thick surface of mustard would be the best. 2ndly. Each limb should have a separate one, from the hip down the leg to the instep. Care should be taken to cover the knee-joints, as the ankle-joints, from the action of the mustard or the stimulants, by wrapping them separately up in flannel, saturated with camphorated oil, of greased linen, or brown paper.
>
> "These monster cataplasms or plasters may remain on the parts four hours, or according to the sense of irritation they give feeling to. They should be covered, to retain their heat, by oiled silk, tar-cloth, oil-cloth, skins, a mackintosh, blankets, &c., so as to confine the heat." (pp. 28-30.)

The author speaks very strongly in favour of, and relates several cases of the successful employment of, the warmth of the human body in rallying patients in the cold stage; and he concludes his pamphlet by a relation of several cases illustrative of the *novel treatment;* but as we do not find one of Asiatic or English cholera among these, we need not now dwell upon them, but would commend their study to those who may be unacquainted with the management of tedious chronic disease or no-disease, affecting lords and noble ladies, honourables, &c. &c., as also to those who may desire to learn the nature of the duties and emoluments of the medical practitioner in Paris, whom, if the author's account be of general application, we envy not. We confess that we have not found in this production that new light and assistance on this confessedly obscure disease which the manifesto-like preface led us to expect.

We have here brought to an end our notices of these twenty-two pamphlets on cholera. We trust we have faithfully represented the chief objects which their several authors have had in view. We would, in conclusion, append a few observations. Many of the works, as we have pointed out, are addressed to the non-professional public. To this we see several objections:—

1. Non-professional persons cannot comprehend the terms employed to express the authors' ideas.

2. They cannot discriminate between the symptoms in individual cases, so as to enable them safely to employ the remedies advised.

3. The remedies recommended are, for the most part, of a character not safely to be entrusted to the hands of non-professional persons.

4. The positive assertion of the absolute non-contagiousness of the disease in the face of facts which incontrovertibly prove that it may sometimes become contagious, is calculated to spread the pestilence, by inducing neglect of the very precautions which the authors would enforce. These remarks, of course, do not apply to those plain and sensible directions put forth by medical men capable of advising on these points, and in obedience to the call of duty.

In reference to treatment, the contents of several of these pamphlets corroborate the opinion that calomel and opium in small doses, at short intervals, with the moderate exhibition of stimulants and simple diluents, are the most trustworthy internal remedies, aided by all available external means for rousing the nervous and vascular energy of the surface of the body, maintaining its warmth, and inducing perspiration. Our readers will have observed, however, that there is the greatest diversity of opinion respecting the treatment. Of those authors whose remarks have been addressed more particularly to the profession, we would remark that we consider them to have conferred an obligation on their brethren by the publication of their pamphlets.

Medical Portrait Gallery. By J. H. MAGUIRE. Published under the superintendence of T. M. STONE. London. 1848.

THE two portraits of the series now before us, are those of Dr. J. Forbes and Dr. Budd. They may both be regarded as good likenesses, but we are particularly pleased with that of Dr. J. Forbes. The resemblance in the features is not only well carried out, but we have also a correct delineation of the sitting attitude or gesture, which is a necessary accompaniment of a portrait. The portraits are drawn with that ease and finish which characterise the other works of Mr. Maguire, and they are well printed on a stone-tinted India paper, which sets off the skill of the draughtsman to the best advantage. These prints are published at a very cheap rate; and whether as works of art, or as commemorative of men who have attained a high standing in the medical profession, they are deserving of extensive patronage.

The Fonetic Nuz. BY ALEXANDER J. ELLIS, B.A., &c. No. 1, Janueri 6, 1849.

THIS is an insane attempt to overturn English orthography, and to substitute a species of cacography which we occasionally see on the the sign-boards of inns in districts unvisited by the schoolmaster. As many of our readers may not have heard of this new system of getting up bad English, we transcribe a specimen which is given to us under the head of

HOM NUZ:—

"Colera had apérd at de Infant Poper Asilum, Tutin, 118 casez havin ocurd, abowt 30 ov hwich had pruved fatal."

Some years since we remember seeing on a sign-board, in North Holland, the following notice to travellers:—

"Het is verbeethen over de land te ryden."

We thought at the time that this was a Dutch inscription, but we now perceive that it must have been a phonetic notice in bad English!

One of the pretences for sending grown persons to school to learn a new alphabet, is that no one can tell the spelling of an English word from its sound. The same objection applies to all languages; but if the mode of spelling and pronouncing a word can be acquired by a proper system of teaching, this is a reason rather for extending education than subverting English orthography, or substituting new for old signs or letters. It is the *eye* that reads, and not the *tongue*. The sound must be acquired by teaching, and whether we spell the word "Cholera" thus, or phonetically "Colera," is really of little moment. An educated person is taught to associate a certain combination of symbols or letters with a certain sound; and, so far as the phonetic mode of spelling is concerned, no one could determine, except by aural teaching, whether the *o* in Colera should be short or long.* Considering that a set of enthusiasts are thus endeavouring to make the rustic cacography of a Devonshire peasant the standard of correctness, we are inclined to put the following question phonetically: Wot ar the Comishoners of Lewnesy abowt?

Proceedings of Societies.

MEDICAL SOCIETY OF LONDON.

Monday, December 18, 1848.

MR. HANCOCK, PRESIDENT.

DR. TOOGOOD DOWNING read a paper on

The Aneuralgicon,

which is a name (compounded of α-νευραλγος) applied to an instrument used by the author for the purpose of allaying pain in nerves; and which may be employed, he believes, with advantage in several other affections. It is a kind of fumigating apparatus, in which dried herbs are burnt, and the heated vapour directed to any part of the body. It is extremely simple of construction, and consists essentially of three parts, with their media of connexion—a cylinder, for igniting the vegetable matter; bellows, for maintaining a current of air through the burning material; and tubes and cones, for directing the stream of vapour. The cylinder is a silver vessel, of a cylindrical shape, about two inches in length, and one inch in diameter. It has a metallic plate at the lower part, perforated with many holes, on which the burning materials lie. Beneath this is an opening for the admission of air, and a socket into which an ivory handle is made to screw. The dome-shaped lid, fitting accurately to the top of the vessel, allows the vapour to escape through an orifice and tube at the summit. The bellows consist of two plates of mahogany, of an oval shape, and about eight or nine inches in length. These are joined together by thin leather, maintained in its proper position by ribs at suitable distances. A strong spring is fixed in the interior, to keep the plates apart, and react against the pressure of the hand. A socket to hold the ivory handle of the cylinder is fixed upon the upper plate, and a strong strap and buckle to fasten the bellows together, when required, for transport. The lower plate contains the valve at the posterior part for the admission of air, and the nozzle, at the anterior extremity, to afford it exit. A stout tube of vulcanized India-rubber, about a yard long, connects the nozzle of the bellows with the lower orifice of the cylinder. It will be seen from this description, that when these parts are united, and pressure is made on the upper plate of the air-vessel with the hand, a current of air passes through the nozzle of the bellows, along the caoutchouc tube, into the cylinder, and from thence escapes from the orifice at the top. So when any prepared vegetable material is put into the cylinder, and ignited, a stream of warm or hot vapour will pass out in the same direction. The arrangements for applying this current are varied. One small silver tube gradually tapers to a point, and is employed to inject the meatus auditorius and other passages; another is curved at the end, for application to cavities and points of the mouth and palate; a third, made of elastic material, is considerably larger and longer; it is, in fact, a vaginal tube, used in affections of the uterus: it may also be employed for the rectum. In order to apply the vapour with advantage to a surface, cones of various sizes have been constructed. There are tubes, shaped like extinguishers, covered with leather, and lined with sheet lead. By this arrangement, they retain the shape given them by the hand. These tubes and cones are, of course, adapted to the orifice at the upper part of the cylinder. In consequence of the length and flexibility of the caoutchouc tube connecting the bellows and cylinder, readiness of application to all parts of the body is ensured. The materials used in the aneuralgicon are chiefly the leaves, slender stalks, and seeds of plants. After carefully selecting the herbs, to ascertain their genuineness and purity, they should be thoroughly dried by a gentle heat. Each leaf, if it be a large one, is then taken separately and rubbed between the hands, so as to break up the parenchyma into small fragments, from which all stalks and woody fibre should be excluded. Some roughly-powdered cascarilla bark may then be added with advantage. The plants hitherto employed are those of the belladonna, henbane, cannabis indica, tobacco, aconite, stramonium, hemlock, savine, digitalis, and a few others. The seeds of henbane, colchicum, and cannabis, have also been added, under certain circumstances. The chief medicinal effects noticed by the author in the use of this instrument are those of a sedative and stimulant character. By the former he has sought to allay pain and spasm, and by the latter to promote defective secretions. But the remedial influence of the aneuralgicon is not alone confined to the medicinal effects of the herbs employed. A considerable power is attributable to the warmth or intense heat generated. When the vegetable matter is ignited, and a current of air is made to pass through the burning mass, a small or great degree of heat can be produced at pleasure. Thus when the hand is gently pressed upon the bellows, a mild, warm stream of vapour is poured forth, which may act as a douche to tender parts. But by strongly and rapidly compressing the same receptacle, the fire within the cylinder is urged, like that of a smith's forge, and the blast is intensely hot and burning. In this way any degree of rubefaction may be effected on a large or small surface, and by gradually augmenting the temperature no bad substitute for the moxa is obtained. A blister can be raised upon the skin with the greatest facility. Thus we have in this aneurodyne apparatus the effects of heat and of medicated vapour; and each of these may be obtained singly, or combined together in regulated proportion. It, in the opinion of the author, admits of many applications, both in medicine and surgery. Dr. Downing more especially suggests the employment of the aneuralgicon in neuralgic affections. In allaying the pain dependent on excessive irritability and excitability of particular nervous fibrils, it will be found a most valuable auxiliary, sometimes a direct therapeutic agent. The effects of both gentle heat and sedative vapour combine to produce the cure. That the influence observed by him to be exercised by this mode of treatment on tic douloureux, is not alone to be attributed to the stream of hot air, but is, in a great degree, due to the herbs employed, he thinks satisfactorily proved. Little or no sedative power is exercised by the fumes of plants unless they are of a highly narcotic character. The effects produced bear relation to the herbs employed. Moreover, by using belladonna, henbane, or the Indian hemp, to the side of the head and face, he has often produced vertigo, sickness, and temporary coma. He says—"I can speak with the more confidence of the power of the aneuralgicon is removing the painful affections of nerves, an I have now tried it in a considerable number of cases. It was from observing the benefit afforded in certain instances of such distressing maladies, that I named the instrument the aneuralgicon, or pain-assuager. In obstinate facial neuralgia, or tic douloureux of many years' continuance, which had resisted every other kind of treatment,—that is, the ordinary routine remedies,—I have more than once been fortunate enough to cure the complaint in one or two sittings; several times by a few applications, and this without giving the patient any internal remedy. More often I have brought it in aid as a local agent of the approved resources of medicine. And this I have observed, that when the administration of drugs by the stomach, in full and persevering doses, has failed altogether in producing a specific effect in allaying the local nervous excitement, the combined auxiliary use of the aneuralgicon has brought about a speedy cure. Although most sanguine about the influence of this aneurodyne apparatus in treating facial tic douloureux, I have, contrary to my expectation, found it available in neuralgia of other parts of the body. I wish it, however, to be distinctly understood, that I would by no means propose the aneuralgicon as an infallible specific for neuralgia, or pretend that it is applicable to all cases. Some discrimination and management will be required, and then I believe it will often be found to act as a charm, and generally serve as a useful auxiliary. The cause of the nervous excitement must be diligently sought after, and removed; but, in cases where this cannot be discovered, or when found, cannot be dislodged, the pain may still occasionally be effectually, and even permanently, allayed. The author proceeds to state that there are many complaints that have more or less affinity to true tic douloureux, and which, in fact, can frequently scarcely be distinguished from it, that may be benefited by the same means, used with judgment. He alludes more particularly to rheumatism of the scalp, hemicrania, clavus hystericus, and painful affections of the jaws. Also in the cold kind of rheumatism, which is relieved by the application of heat, seated in various parts of the body. A stream of water sedative vapour, poured into the external meatus by means of the aneuralgicon, will often, he observes, allay immediately the pain of otalgia, and may perhaps assist to resolve the inflammation in chronic otitis. He thinks, also, it might be serviceable in certain cases of nervous deafness depending on excessive irritability of the parts. Its power of restoring a sufficient secretion of cerumen is very great. No ill effect has ever followed its use. Dr. Downing next proceeds to suggest the use of the aneuralgicon in derangements and diseases of the uterus. Here both a stimulant and a sedative vapour might be employed with advantage. By means of the long flexible tube previously described, this vapour may be injected directly into the cavity of the uterus, or made to play upon the cervix or os. This is most readily effected by previously introducing a small speculum. The cases in which he thinks stimulating vapour might be advantageously employed, are those of obstinate amenorrhœa. After the failure of the ordinary remedies, and it is considered absolutely necessary to restore the catamenial flow, we are justified in resorting to local applications. The vapour of stimulating herbs—savine, for example—would apparently be preferable to cauterizing the cavity of the uterus with the nitrate of silver, as recommended in such instances by Dr. Simpson and other writers on midwifery. The sedative vapour is suggested for neuralgia of the uterus, and other painful states unattended with inflammation or functional disorders. It may also be questioned whether it might not be available in certain distressing hysterical affections depending on excessive irritability of the womb. The well-known power of tobacco-smoke in relieving spasm would suggest the employment of the aneuralgicon in hour-glass and other irregular contractions of the muscular fibres of the uterus. It was used with signal advantage in a case of excruciating after-pains, resisting every other remedy. The author employed the same vapour, with immediate effect, in a case of spasmodic stricture of the urethra, but has had no further opportunity of testing its powers in this complaint. The facility with which tobacco-smoke can be injected into the rectum, by means of this instrument, is pointed out to those who still employ this remedy. The practitioner is now thrown upon his own ingenuity when he wishes to administer it. Much valuable time is there lost. A gentleman of this town who wished to use tobacco-smoke for the reduction of a hernia, lately, was full two hours before he could accomplish his purpose. By means of the aneuralgicon, the operation might have been completed in as many minutes. The author, in addition, thinks the instrument admirably adapted as a counter-irritant and moxa to spinal disease, chronic inflammation of the membranes of the cord, and spinal irritation. The hot or burning vapour douche may be made to play upon the particular spot, or passed in succession along the whole column. Its effects, he says, may be regulated with the greatest nicety. Finally, Dr. Downing announced his intention of bringing forward a number of cases illustrative of the beneficial use of the apparatus in neuralgic affections, at the next meeting of the Society.

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* In the phonetic alphabet, the *o* takes different forms according to the sound; but we might as well print books with the words accented as vary the form of the letter according to the sound.

In the discussion which ensued on this paper, various Fellows took part, while some regarded it as likely to be less efficient in the treatment of neuralgia, than other local agents at present in general use; others considered that it would be a valuable addition to our means of cure in that class of painful affections.

Monday, January 8, 1849.

Dr. Downing related, this evening, several cases of neuralgia successfully treated by his new apparatus.

Dr. Willshire considered that the good had arisen from the warm air, and not from any narcotic influence of the agents employed.

At the meeting on Monday, Dr. Willshire will read a paper on some other points connected with the mouth and throat of children.

LIVERPOOL MEDICAL AND PATHOLOGICAL SOCIETY.

Anæsthesia from the local Application of Chloroform.

Mr. Higginson brought forward the case of a lady, aged 25 years, in labour with her first child: the perineum had long been on the stretch by the head, which was tumified by the pressure: the pain was great with each uterine contraction, but was referred entirely to the perineum, no pain being apparently felt from the uterine contraction itself.

About half a drachm of chloroform was poured upon a handkerchief in the ordinary manner, but instead of being applied to the mouth, it was held in almost immediate contact with the perineum. The pain immediately ceased, though the uterine contractions continued in full force; and the first intimation the patient had of the progress of the labour, was hearing the child cry. Her mind was not at all affected, nor was intellectual consciousness in any degree diminished.

He had observed the same thing, though in a less degree, when the chloroform had been applied to the sacrum in another case.

He had also applied this agent to the os uteri of a patient suffering from very severe dysmenorrhœa, by means of a sponge placed in a curved glass speculum, which was introduced into the vagina. The pain almost immediately abated, and on its return, after some hours, the patient re-applied it herself with similar benefit.

Dr. Watson mentioned some cases confirmatory of its good effects when locally applied. He had painted it over a swelled testicle, with speedy relief to the pain, and had applied it along the course of the spine with a similar result in a case of acute spinal tenderness, which had not been relieved by other treatment. He had also applied it to the surface of a large mammary abscess prior to opening it, which was afterwards done without suffering to the patient; and also to the vulva of a woman before cauterizing the orifice of the urethra. It had relieved the cramp and collapse in a case of English cholera when laid upon the epigastrium, and had abated the pain almost immediately when painted round the edge of a surface to which potassa fusa had been applied for the purpose of forming an issue.

Dr. IMLACH then read the following report of a case of

Inversion of the Uterus, occurring four days after delivery.

I was requested to visit a patient immediately, who had just "been put to bed" by a very ignorant old midwife. The labour was reported to have been quite natural, and the placenta to have been soon extracted by the midwife, but severe flooding had ensued. On entering the room, I saw a large quantity of blood below the bed, and streaming along the floor: the patient was completely blanched, unable to speak, and almost pulseless. By the free use of brandy and ammonia, however, and by firmly grasping the enlarged uterus, the patient rallied a little, and the hæmorrhage abated, and did not afterwards return. I learned that this was the woman's second confinement, that her first one was quite natural, and uncomplicated with anything untoward, but that on the present occasion the midwife had used great force in dilating the soft parts, and also in extracting the placenta, which she accomplished in a few minutes after the expulsion of the child. The patient was previously in good health, and about twenty-two years of age. I am not aware what the length of the funis was, nor whether it was at all twisted round the child.

Next day, Thursday, I ascertained that there had been no return of hæmorrhage; the woman was still in a very exhausted state, but had taken a little food: she felt no desire to pass water. On Friday, she complained of being unable to pass water; the bladder was enormously distended; I therefore introduced a catheter, and drew off a large quantity of urine. The introduction of the catheter was somewhat impeded by a tumor which I then believed to be a prolapsed state of the uterus; but as at the same time I felt the uterine tumor above the pubes, and the woman was extremely weak, I did not think it advisable to make any vaginal examination. On Saturday morning she took some castor oil, which acted only slightly: the urine flowed involuntarily, and the bladder could not be felt above the pubes, while the uterus was evidently there.

On Sunday morning the nurse called on me, stating that the patient felt as if the oil would operate again, but that she seemed unable to pass the evacuation: I therefore suggested that a bit of tallow should be used gently as a suppository. This was done in the course of the forenoon, and the patient believing that the motion was coming, got up suddenly to relieve herself, but at that moment complete inversion of the uterus took place. This inverted uterus formed a fœtid tumor, about the size of the head of a child a year old, between the thighs of the poor woman: it was covered with a pulpy, purulent-looking discharge, and the side of it where the placenta had been attached was of a mottled purple appearance, as if bits of coagulated blood and pus were adherent to it. I was now sent for, and found the patient in a worse condition, if possible, than when I saw her immediately after her accouchement. She was pale and exhausted; pulse small and running: she could not speak, but still she did not appear to me to be in the immediate prospect of dissolution. I examined the tumor carefully, and as there could be no mistake as to the nature of the accident which had occurred, I immediately attempted the reduction of the inverted organ.

By moderate pressure kept up with the hand upon the fundus for about half an hour, the uterus suddenly disappeared entirely into the pelvis, and could be felt in its natural position above the pubes. The woman slowly recovered without further accident, but for two or three weeks there was a profuse and very offensive purulent discharge, with excoriation of the vulva and thighs. After the reduction of the inversion, no treatment was required except opium to keep down the irritation of the system, which had resulted from the previous hæmorrhage, and moderate diet, with a small allowance of wine; and about the end of the month, both the woman and her infant left the place "as well as could be expected."

In commenting upon the case, Dr. Imlach was of opinion that the inversion was not caused by the violence of the midwife in extracting the placenta, but by the contraction of the abdominal muscles acting upon the walls of the uterus, enfeebled by the excessive hæmorrhage, and thus rendered incapable of resisting the pressure which, under ordinary circumstances, would have had no injurious effect upon it.

Some conversation ensued on the general question of the origin of inversion of the uterus, in which the opinion of the members was nearly equally divided for and against its being caused by violence in extracting the placenta.

ACADEMY OF SCIENCES, PARIS.

Sitting of January 2d.

M. Boussingault, the Vice-President of 1848, succeeded M. Poulliet as President, and M. Dupency was elected Vice-President by 37 out of 42 votes.

Sir David Brewster was elected Foreign Associate in place of the late M. Berzelius: Sir David obtained 28 votes out of 40; M. Tiedemann, of Heidelberg, 7; M. Mitscherlich, of Berlin, 3; M. Ehrenberg, of Berlin, and M. Melloni of Naples, each 1.

The only medical communication received, was from Dr. Remy, who mentioned a case of traumatic tetanus of the most violent kind, which, though in its last stage, was cured by destroying the cicatirx by means of a red hot iron. This process was, a long time since, recommended by Larrey, and employed by him.

Correspondence.

THE SYDENHAM SOCIETY. TRANSLATION OF RHAZES ON THE SMALL-POX AND MEASLES.

Sir,—As by this time most of the members of the Sydenham Society must have received their copies of the last work issued by the Council, they will be able, if not, indeed, to appreciate, at all events to perceive, however imperfectly, the astonishing amount of erudition and research which this new volume displays. It is certainly the most remarkable production of the Sydenham press, and is calculated, I think, to do the Society no little service, by raising its character in the estimation of our foreign brethren, who have long had the start of us in professional scholarship. To Dr. Greenhill, therefore, the very greatest praise is due, for having enabled us to enter into competition with our more learned *confrères* in Germany and France, in a department of literature which has, for many years at least, been left exclusively in their possession; and the Council have done well in availing themselves of his talents for this purpose. It is a singular thing, that the first Latin translation *directly from the Arabic* was made, just about a hundred years ago, if not by, at least at the instigation and expense of, our distinguished countryman, Dr. Mead; and now the first English translation, directly from the original, is issued under the auspices of the Sydenham Society, achieved, too, by one of its own members. And let it not be supposed that the work is only curious as a specimen of rare and accomplished scholarship; for much that cannot fail to be interesting to the physician, in reference to the history of small-pox, will be found in Rhazes' description of the disease. Dr. Greenhill has added greatly to its value by the instructive notes appended to his translation, and which will be found to throw considerable light on some difficulties and obscurities in ancient medicine. I would invite the reader's attention particularly to the Note G, pp. 145-150, on the carbuncular or anthrax-like eruption in certain malignant fevers, described by various writers of antiquity, and the real nature of which has given rise to numerous conjectures. Those who are curious in the botany and pharmacy of the old physicians, will find a mine of information in the indices at the end of the volume.

I observe by the last Annual Report of the Society, that an English translation of Hippocrates is one of the works to be next published. Would it not have been well to have accompanied it with the Greek text, either in the same or in a distinct volume? Certainly one at least of the objects of the Society was to promote a taste for the classic literature of the profession; and how could this be better done than by well-executed reprints of the standard works of by-gone times, which, despite the advancement of scientific knowledge, are universally admitted to be rich in instruction? As an almost invariable rule, the original text should, in my opinion, be given, if not before, at least with, a translation, just as has been done with the works of Sydenham (for the Latin edition, by the bye, we were indebted to Dr. Greenhill), of which we are now promised an English version.

A Member of the Sydenham Society.

London, Dec. 28, 1848.

CASE OF ASIATIC CHOLERA IN A CHILD. RECOVERY. BENEFICIAL EFFECTS PRODUCED BY THE ACETATE OF LEAD.

Sir,—In order to give publicity to a successful case which has occurred in my own family, exactly resembling in its symptoms the fatal cases which are so fearfully continuing at Mr. Drouett's establishment, Lower Tooting, I venture to send you the particulars, that, if you think proper, you may publish it in your next number of the Medical Gazette.

My own little boy, 5 years of age, who had been suffering from diarrhœa for a few days previously, was on Wednesday last (January 3rd) better, and went to bed apparently in his usual health and spirits. I saw him at half-past 12 o'clock at night, in a comfortable sleep, and I retired to my own room. I had not been in bed more than an hour, before my housemaid hastily summoned me, saying, "the child was very sick and ill." I ran up stairs, and found him vomiting, almost in an uninterrupted stream, an enormous quantity of thin greenish fluid. The bowels were also passing from them an offensive fluid, of a watery, bilious character. His pulse was not to be discovered. The surface of his body was cold. His countenance pale and collapsed. In short, excepting that spasms of the legs, &c. were absent, he appeared to be labouring under an attack of cholera. Whilst I supported him on my arm, until brandy and port wine could be procured, his lower jaw dropped; his lips became blue; his face perfectly blanched; his tongue and fauces quite white and bloodless; and a faint cadaveric smell arose from his body. I poured down his throat some port wine and water, which he swallowed, afterwards some pure brandy, then more port wine and water. He shortly appeared more sensible, asked for more drink, and said he wanted to sleep. I laid him in the recumbent posture, wrapped up in warm blankets, and got for him a strong dose of aromatic confection, laudanum, and ether. He took it, and then fell asleep. The sickness never recurred; but the bowels continued to pour out the same fluid secretions, and which passed involuntarily.

He slept until near four o'clock A.M., his pulse rising as secretion took place: a sort of fever now succeeded; his tongue was perfectly dry; his cheeks flushed; and he had a constant craving for drink, which was supplied to him in the shape of toast water, with arrow-root in it. He had one small saline draught; and finding that he was free from pain, and that all that remained to meet was the discharge from the bowels, I gave him a quarter of a grain of the acetate of lead, with two drops of Battley's solution, in a little water. Very shortly the discharge abated, and by ten o'clock A.M. (January 4th), ceased entirely. A second dose was administered, to keep up the good effect, and no further action of the bowels took place until Saturday, January 6th, in the forenoon, when a scanty but healthy motion was passed. He has continued to improve, assisted by the frequent exhibition of nourishing food.

I think it right to publish this case, because I am not aware that the lead has ever been had recourse to in similar cases. At all events, I am quite satisfied that the signal advantage derived from its use in the case of my child, entitles it to the favourable notice of the profession under similar circumstances.—I am, sir,

Your obedient servant,

GEORGE TATHAM.

January 8th, 1849.
31, Marine Parade, Brighton.

⁂ Dr. Graves has found good effects from the use of acetate of lead, and has strongly recommended it to the profession. It has also been found serviceable by Dr. Thom and Dr. Parkes. See our last volume, page 761.

THE COLLEGE OF SURGEONS—ELECTION OF MEMBERS OF COUNCIL.

SIR,—By the deaths of Mr. Samuel Cooper and Mr. Callaway, two vacancies have occurred in the Council of the College of Surgeons, and as these must be filled up in July next, it is most important to make a timely inquiry, whether the results of the present system of election are so satisfactory that any change in that system is uncalled for. Up to 1840 the affairs of the College were managed by a Council, consisting of twenty-one persons, and comprising the most distinguished surgeons in London. When vacancies occurred, the election of new members into the Council was vested in that body; and with only two exceptions (of members now dead, and elected under circumstances too well known to require explanation here), in a period of about forty years, the men who were best entitled to the distinction were selected. In 1841, I think, a majority of the Council accepted a new charter, which was understood to have been forced upon the College, against the wishes of the majority of the Council, and certainly without any solicitation on the part of the members, by the then Home Secretary. By this charter, the election of the members of Council (which was enlarged to twenty-four) was transferred to certain members of the College, then for the first time distinguished by the name of Fellows, and whose separation into a distinct class, with privileges denied to the ordinary members, created much dissatisfaction in the profession. Under the new system, I believe five elections have taken place, and eleven new members have been added to the Council; and I express the opinion of the best men in the profession when I say that several of the new members of Council ought not—and, if the old system had continued, would not—have been elected upon that Board. Those members occupy a place to which their qualifications do not entitle them, and their presence in the Council has already given occasion for scandal, and has shaken that respect which the high professional character of the members of former Councils so generally inspired. There is obviously something wrong in a system which has produced such injurious results in so short a time, and for that wrong we should surely lose no time in seeking to provide a remedy. The College depends for its influence and position upon the reputation of the members of Council, and that influence and that position must be impaired, and may be ultimately destroyed, if the present system of election be continued, with similar results. No one is compelled to become a member of the College ;[*] every man may practise without their diploma ; most of the persons who present themselves for admission do so, because to be a member of that body has been regarded as a distinction, and because their qualifications are vouched for, and their diplomas are signed by men of widely-spread reputation ; and unless a succession of such men be provided, the decline of the College is inevitable. That decline has, in the opinion of many, already commenced ; and the writer of this letter would earnestly urge upon the Fellows the duty of considering, without delay, the position in which they stand, and the necessity which exists for arresting the further progress of a serious evil. Under the old system, the electors were intimately acquainted with the qualifications of every one who was a candidate for a place at the Council Board, and sincerely desirous of maintaining the high character of the body to which they belonged ; and there was in this much security for the good working of the system. Under the new system there may be, and probably is, an equal desire to uphold the character of the Council ; but the bulk of the Fellows are not well acquainted with the qualifications of the men from whom they are required to make a selection, and unless some decided course be taken, the chances are, that ill qualified men will continue to find admission into the Council.

Every Fellow, when his name is called over,—and this is done according to seniority —may be nominated by three Fellows, and he is then ballotted for ; and there are few men so friendless as not to find three members of a numerous body willing to vouch for their competency. When the ballot is taken, the Fellows may be, and so far have been, very imperfectly acquainted with the professional acquirements and merits of the person named, and an objectionable person may thus have as good a chance of election as the most highly qualified.

If the present plan, then, be followed out for a few years, there is reason to fear a large portion of ill-qualified persons will be introduced into the Council, and that it will then no longer possess the respect of the profession. Should this result be brought about, it will be mainly owing to the fact that the bulk of the electors have not such a knowledge of the candidates as is necessary to enable them to make a proper selection ; and unless some plan can be devised for diffusing among the Fellows a proper knowledge of candidates, the character of the Council will at the next election be probably still further lowered. I assume and believe that the Council and Fellows at large, whether living in town or in the provinces, are all equally desirous of upholding the dignity of their College, and are all equally anxious to support any plan by which that object may be secured. I believe that there is only one way by which this can be accomplished, and that is, by electing into the Council men whose characters and positions will be a guarantee that they will maintain that dignity; and this cannot be done unless the Fellows are made acquainted with the merits of candidates in some suitable manner ; and I maintain that this can be properly done by the Council only, and that it can be very easily accomplished.

If there be three vacancies by resignation, or by death, to be filled up, let the Council go through the list as they would have done under the old regime, and let them have a house-list of three, six, or any other number of names of eligible persons ; and let the Fellows adopt that list, or, if it pleases them better, reject it. In this way there need be no interference with the provisions of the charter, which will be in fact complied with.

When I look at previous proceedings of the Council, I almost despair of their taking a decided course— they have generally been timid when energetic action is necessary. Still I hope that they are now sensible of the mischief with which the present system is fraught—that they will do what is best boldly, regardless of present obloquy—and they may rely upon it that if they once show that they are earnest and honest, they will obtain the support of every well-wisher of the College.

Your obedient servant,
A Fellow, not of the Council.

⁂ The writer has forwarded his name.

TREATMENT OF LIENTERY IN INFANTS.

Professor Trousseau has recorded his clinical observations, made at the Hospital Necker, on lientery of infants at the breast, which he regards as consisting in a softened state of the mucous membrane, and, unless complicated with other disease, readily cured.

The remedies on which he chiefly relies are the subnitrate of bismuth and chloride of sodium.

Of the former he gives from about the tenth to the twentieth of a grain for a dose : it restrains the action of the bowels, and at the same time imparts a dark colour to the evacuations, owing to its conversion to sulphuret.

Of the chloride of sodium he administers about from two to four grains, and has found it beneficial in long-standing and obstinate cases.

Either of these remedies he finds sufficient to subdue any case not complicated with a more serious malady, or kept up by improper food.—*Bulletin Gén. de Therap.* x

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[*] There is no direct compulsion, but a large number of public offices are shut against those who are not members of the College.—Ed. Gaz.

Medical Intelligence.

THE CHOLERA IN BELFAST.

The cholera is steadily on the increase, although its malignity is diminishing. In the union workhouse it is still confined to the nursery, if we except two cases,—one a nurse, who was taken ill on Thursday, the other a boy of 14, who was in another part of the house. The diet of the children has been changed, and every preventive precaution put in force, but as yet without any very beneficial effect being perceptible. But one case has occurred in town for some days,—that of a man who is still under treatment, but, as we learn, likely to recover. The following is the official return since our last:—Wednesday—new cases, 9; discharged, 3; cured, 2; remaining, 16; no death. Thursday—new cases, 2; discharged, 2; died, 1; remaining, 15. Yesterday—new cases, 5; died, 2; cured, 2; remaining, 16. Total cases since the commencement, 73; recoveries, 24; deaths, 28; remaining, 16.

ALLEGED FEIGNING OF ASIATIC CHOLERA.

Strange as it may appear, there is some reason to believe that two prisoners, recently confined in the Dumfries prison, have obtained their liberty by successfully feigning an attack of Asiatic cholera. The two men, who appeared to be severely attacked with vomiting and purging, rice-water evacuations, &c., were conveyed by the order of the medical attendant to the Town Infirmary, distant about a mile from the gaol. They were submitted to the usual medical treatment, but the next day they were not to be found, having succeeded in making their escape. On the one hand, it is alleged that the medical superintendent could not have been deceived in the nature of the symptoms; but, admitting this presumption, it is, on the other hand, very difficult to comprehend how two men, in the collapsed stage of cholera, should be able to make their escape so effectually the day following, that no account of them could be obtained from any quarter, in spite of the most diligent search. It is said that the case of one (a Roman Catholic) was considered to be actually so far advanced, that he received the last solemn rites of the church at the hands of a priest!

THE FRENCH INSTITUTE.

At the sitting of the Academy of Sciences on the 2nd January, Sir David Brewster was elected one of the eight foreign Associate Members of the National Institute of France, in the room of the late Baron Berzelius.

MEDICAL OFFICERS IN THE NAVY.

According to a recently published return, it appears that the number of Medical Officers and Assistant-Surgeons in the Navy, was respectively in

	1816	1831	1837	1843	1846	1849
Med. Officers	1537	1153	977	1005	961	957
Acting Assist Surgeons,	—	—	—	67	71	47

ROYAL COLLEGE OF SURGEONS.

The following gentlemen were admitted members of the college on the 5th inst.:—Messrs. R. Blagden—C. W. Poulton—H. R. Hoskins—J. Wilmshurst—F. D. Fletcher—R. S. Boley—J. B. Boley—and J. M. Wills.

OBITUARY.

On the 6th inst., aged 79, Charles Edward Clarke, Esq., formerly Assistant-Surgeon in the Coldstream Guards, and late of Lower Grosvenor Place, Pimlico.

On the 9th inst., at Colchester, Essex, after a short illness, William Byass, Esq., late of Worthing, surgeon, many years resident at Berbice, British Guiana, second son of the late John Byass, Esq., surgeon, Arundel, Sussex, aged 57.

Selections from Journals.

ON THE SIGNS OF DEATH, AND THE PREVENTION OF PREMATURE INTERMENTS. BY M. RAYER.*

Few subjects are better deserving of an attentive interest than that of apparent death. The deplorable mistakes of premature burial, and the uncertainty of science as to the signs of death, have been the source of much anxious doubt and suspense on this head. At the same time, the erection, during the last twelve years, in different parts of Germany, of dead houses for the reception of bodies until putrefaction has commenced, justly excites public alarm. While the government deputed physicians to inspect these novel establishments, the Academy of Sciences accepted of M. Maurie, Professor of Hygiène in the University of Rome, the foundation of a prize of fifteen hundred francs, for the best memoir on this important subject. After three times submitting the question, which had remained open ten years, to concours, the Academy have unanimously decreed the prize to the essay of M. Bouchut, an analysis of which we now submit to our readers.

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* A short notice of M. Bouchut's remarks will be found at p. 86 of the preceding volume of the Med. Gaz.

The Academy insisted upon a full exposition of the present state of knowledge, but more particularly original observations on the more prompt and certain diagnosis in the few cases in which the physician may be in doubt as to the life or death of an individual. These investigations are pursued under two divisions.

1. *What are the characters of apparent death?*

The observations and experiments of M. Bouchut all tend to this result—that in persons apparently dead, especially from asphyxia and syncope, whatever may be, in other respects, the diversity of their symptoms, present this character in common, by which they are distinguished from the really dead—*the heart still pulsates.*

Since the time of F. Hoffman, syncope has usually been attributed to complete suspension of the functions of the heart; but *M. Bouchut* has established that, even in the most complete syncope, attended with loss of sensation and motion, and reduction of the temperature of the body, there is not a perfect suspension of the heart's action, but merely a diminution in the frequency and force of its contractions. And this, according to M. Bouchut, obtains in apoplexy, epileptic and hysterical coma, narcotic poisoning, asphyxia, and syncope, in all their degrees and varieties, constituting the distinguishing character *of apparent death.*

2. *What are the means of preventing premature interments?*

The surest means of prevention are to be found in the accurate determination of the signs of death; and these, according to M. Bouchut, are *immediate* and *remote.*

The *immediate* signs of death in man are—

1. Prolonged absence of the action of the heart, determined by auscultation.

2. Simultaneous relaxation of all the sphincter muscles from paralysis thereof.

3. Sinking of the globe of the eye, and loss of the transparency of the cornea.

These signs have not (in the opinion of the commission) an equal value or equal certainty;—they, therefore, deem it advisable to add a few remarks thereon.

They hold it to be essential to fix a definite period within which the beating of the heart must be considered to have definitely ceased. They object to the expression, "prolonged absence," employed by M. Bouchut, as not sufficiently precise.

The observation of many cases has led M. Bouchut to determine that the maximum interval between the last pulsations of the heart in the adult is *six seconds.* M. Rayer's observations lead him to nearly the same conclusion, as he considers about *seven seconds* to constitute the maximum interval. The commission therefore deem themselves justified in fixing an interval of *five seconds* as leaving no doubt of the complete cessation of the heart's action. Moreover, the definite cessation of the heart's action is always accompanied by two striking and easily-ascertained phenomena—the cessation of respiratory movements, and loss of sensation and motion. Hence it follows, that death is certain whenever it is ascertained that the beating of the heart has definitely ceased, this cessation being immediately followed, if not already preceded by, a cessation of respiration, and of the functions of sensation and motion.

M. Bouchut's review of the observations on the value of the phenomena of putrefaction as signs of death, are of great value at this time, in reference to premature interment in supposed death from cholera; and to the efforts recently made for the establishment, in various parts of France, of houses for the reception of bodies until these phenomena shall have supervened. Even as established in full force in various parts of Germany, the utility of these houses is very doubtful, and indeed they have been but little used within the last fifty years, in consequence of an authoritative statement, that no person placed in any of these receptacles had been known to revive. At the present day, they would only cause an unnecessary expense, which many towns could not well bear. The certainty derived from the presence of other signs of death renders them unnecessary.

With regard, then, to the *immediate* signs of death, M. Bouchut's conclusions on the definitive cessation of the heart's action, are admitted by the commission to have filled the gap left by medico-legal writers on this subject.

The remote signs of death, admitted by M. Bouchut, are three, viz.—cadaveric rigidity, absence of muscular contractility under galvanic stimulus, and putrefaction. The certainty of cadaveric rigidity as a sign of death has been admitted by all writers since Louis and Nysten's demonstration of its importance. The mode in which the limbs yield to bending force, distinguish convulsive from cadaveric rigidity; besides which the absence of circulation, respiration, &c. are conclusive as to the other signs.

M. Bouchut's investigations are summed up by the commission in the following propositions:—

1. That the cessation of the heart's action, indicated by absence of its sounds, is a direct and certain sign of death.

2. That cadaveric rigidity is equally a sign of death.

3. That the absence of muscular contractility, under the electrical or galvanic stimulus, is also a certain sign of death.

4. That putrefaction does not ordinarily supervene until long after the occurrence of the preceding signs; and it is unnecessary to wait for its appearance before proceeding to interment.

5. That the determination of these certain signs of death can only be appreciated by medical men, and therefore ought to be entrusted to them alone.

6. That although the possibility of ascertaining the certainty of death, independently of putrefaction, renders unnecessary the establishment of dead houses, yet it is very desirable that proper receptacles should be provided for the reception of the bodies of the poor, rather than that they should be suffered to remain until burial in their inconvenient residences. — *Bulletin Général de Thérapeutique.*

CONTAGIOUS PROPAGATION OF CHOLERA.

Of what nature soever be the exciting cause of this disease—and there has been no want of speculation on this point—its mode of propagation is a question of at least as great, if not greater, importance. Does the disease propagate itself by contagion, or is it a simple epidemic of a non-contagious character? The medical world has been much divided on these two questions. When we reflect that contagious diseases frequently exhibit themselves in a form apparently epidemic, and that epidemics assume many of the features of contagious diseases, it becomes a matter of exceeding difficulty to draw the line of demarcation between them. We do not mean to assert that epidemics are necessarily contagious, or that contagious diseases are necessarily epidemic, but we mean to say that, with reference to cholera, generalizations have been formed, and conclusions arrived at, without a full and attentive consideration of all the facts of the case. A reversal of opinion has taken place in favour of its contagious character, even among the most strenuous non-contagionists. It is not our intention to enter upon, or discuss the data upon which these conclusions have been arrived at; that would form matter for a whole number of our journal. But we may contrast, not without some degree of interest, the altered opinions of one of the most authoritative boards on the subject in Great Britain. At the last visitation of cholera in England, the Metropolitan Sanitary Commission emphatically declared the disease to be non-contagious (?): this year the General Board of Health, of London, treats this question in the most cautious non-committal way, observing that "the extent," uniform tenor, and undoubted authority of the evidence obtained from observers of all classes in different countries, &c., *appears to discredit* the once prevalent opinion, that cholera is *in itself* contagious—an opinion which, if fallacious, must be mischievous. And again, "It is so far true that certain conditions may favour its spread from person to person," &c. &c. &c. The Central Board of Health, again, of Dublin, is equally cautious. While, in one portion of its address, it talks of the "non-contagious character of cholera," in another it says, equally distinctly, "that it is rarely, if ever, contagious"—a species of phraseology which, to our mind, is sufficiently conclusive as to its being so sometimes. While evidence of the strongest description can be adduced to prove its epidemic character, evidence equally conclusive can be produced to demonstrate that it is contagious—contagious, however, under like circumstances with typhus fever or dysentery, but not to the same extent; and the means capable of depriving the latter of much of their malignity in this respect, are equally, if not more, effectual with the former. We have a decided objection to conceal the truth in this matter, fully persuaded that ignorance of causes does infinitely more harm than their divulgence. It lulls into a security which is false, and prevents a recourse to precautionary measures, which would otherwise, in all probability, have obviated an attack.—*Brit. Amer. Journal*, Dec. 1848.

DR. BELLINGHAM ON ANEURISM OF THE AORTA.

When an aneurism of the thoracic aorta presents itself externally as a pulsating tumor, the diagnosis is of course generally easy: indeed, up to a comparatively recent period, this was supposed to be the only positive sign of its presence. But when the tumor neither approaches the parietes of the chest, nor compresses any important organ or part contained in this cavity, an accurate diagnosis is attended with more difficulty. In some instances the diagnosis will be facilitated by the mode of reasoning, which the French term "par voie d'exclusion:" for example, if a patient exhibits one or more symptoms of thoracic aneurism, which may be common to it and to other diseases of the chest; but if we cannot refer them to any disease of the heart or lungs, the existence of aneurism is probable, provided the patient is a male, and his age that at which aneurism is most frequent. In other cases, the patient's previous history may throw some light upon the diagnosis: thus, if a man who had previously laboured under spontaneous aneurism in one extremity, presents any symptoms of thoracic aneurism, this ought to attract attention; while if he had been twice previously the subject of spontaneous aneurism (as occurred in one of my cases), the probability will become still stronger. Again, if a man who has received a severe injury of the chest, or a violent strain, exhibits some time afterwards signs of pressure upon the trachea, large bronchial tubes, œsophagus, or any part contained in the thorax, the existence of aneurism is probable; while if the previous habits of the patient had been such as to predispose to disease of the central organ of the circulation, the probability will become still stronger.

Aneurism of the ascending or transverse portions of the arch of the aorta, as a general rule, is more easily diagnosed than aneurism of the descending portion of the arch, because it is almost necessarily attended by signs which are absent in the latter: this will be immediately evident when we consider the anatomical relations of the artery in these several parts of its course. For instance, if the aneurismal sac springs from the anterior surface of the ascending or transverse portions of the arch, it will soon form a pulsating tumor externally. If the sac proceeds from the superior surface of the same part of the vessel, it will point below the clavicle upon either side, or rise above the sternum, or it may cause erosion of the upper bone of the sternum, or of the second and third ribs. If the sac springs from the posterior aspect of the vessel in this part of its course, it will soon come to press upon the trachea, œsophagus, or large bronchi, or it may compress the descending cava, or the right pulmonary artery and veins.

On the other hand, an aneurism seated in the descending portion of the arch of the aorta might remain undetected for a considerable period, as the sac must attain a large size before it could form a pulsating tumor externally, owing to the depth of the vessel in the thorax. An aneurism coming off from the anterior surface of the descending portion of the arch of the aorta might certainly come to press upon the left bronchus, the œsophagus, or the thoracic duct; or it might stretch to compress the par vagum nerve upon the left side: these effects, however, are much more likely to be produced by an aneurism springing from the transverse portion of the arch of the aorta. It might also compress the left lung or displace the heart, and this is more likely to occur in aneurism of the descending thoracic aorta than any part of the arch, and the aneurism must attain a very large size before it could occasion injurious compression of the lung, or before it could displace the heart much; and other signs of its existence more pathognomonic would probably have been developed previously.—*Dublin Medical Press*, 1848.

DR. C. E. LAVENDER ON THE CHARACTERS OF CONGESTIVE FEVER.

In its premonitories and its access congestive fever presents but little to distinguish it from an ordinary attack of intermittent. There are more languor, more restlessness, and more debility. It is rarely the case that it makes its attack without a day or two of the ordinary premonitories of autumnal fever. It then approaches in the form of a chill. The patient is restless, and very much oppressed; skin pale and shrivelled; extremities cold; features contracted; lips purple; tongue pointed, and of a leaden hue, or pale, cold and clammy; pulse feeble, quick, frequent, irregular, and intermitting; tendons corded; occasional rigors, and sometimes shaking chills, though the patient rarely complains of coldness. There is no acute pain, but a dull heavy aching in the head, back, and limbs. Usually there is great thirst, with nausea and vomiting; but these symptoms are not always present. In place of febrile reaction the surface grows colder, and is bedewed with a cold unnatural perspiration. There is an indescribable sense of restlessness and oppression, the patient remaining but a few seconds in any one position: on rising to his feet he becomes giddy, staggers, and perhaps falls. He writhes under tormenting heat, calls for ice, desires to be fanned constantly, and to have cold water sprinkled on his face and breast, while his skin is as cold as the marble wet with the morning dew. In some cases, however, there is much morbid heat about the head and chest. A copious sweat suddenly breaks out, and as suddenly disappears; skin becomes motley and bluish, its sensibility impaired, impress of fingers remains some seconds after pressure is removed; sometimes ecchymosis in dependent parts; respiration irregular, with frequent sighing; great anxiety, countenance haggard; eyes suffused; a watery purging is sometimes a dangerous symptom, and hiccough a troublesome attendant. There is usually a most distressing sense of sinking down, and to the patient himself a most alarming incubus or feeling of suffocation: he lies still, it may be for a minute, without breathing, then gasps for breath, makes short and hurried respiration; cries out that he shall die for want of breath; rises, advances hurriedly to the window, staggers, throws himself on another bed, or falls on the floor; the pulse has ceased to flutter at the wrist; a moment's unusual anguish, a gasp or two for breath, the heart ceases to beat, and death closes the scene in six or eight hours from the access, the sufferer retaining his senses to the last. At other times death approaches under cover of a deep comatose sleep of several hours' duration. Sometimes, though rarely, the paroxysm closes in convulsions.—*American Journal of Med. Sciences*, July 1848.

BOOKS & PERIODICALS RECEIVED

DURING THE WEEK.

Braithwaite's Retrospect of Medicine. Vol. XVIII. July to December.

Demonstrations of Anatomy. By G. V. Ellis. 2d edition.

The National Cyclopædia of Useful Knowledge. Part XXIV. Germany—Hanover.

The Fonetic Nuz. No I. By A. J. Ellis.

Henke's Zeitschrift der Staatsarzneikunde. 4tes Viertetjuhrheft, 1848.

An Essay on some of the most Important Diseases of Women. By W. Jones, M.D.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Jan. 6.

BIRTHS.		DEATHS.		*Av. of 5 Win.*	
Males....	726	Males....	565	Males....	592
Females..	586	Females..	566	Females..	577
	1312		1131		1169

CAUSES OF DEATH.		*Av. of 5 Win.*
ALL CAUSES	1131	1169
SPECIFIED CAUSES	1129	1164
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*..	359	221
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	42	54
3. Brain, Spinal Marrow, Nerves, and Senses	109	141
4. Heart and Bloodvessels	39	40
5. Lungs, and other Organs of Respiration	203	243
6. Stomach, Liver, and other Organs of Digestion	60	67
7. Diseases of the Kidneys, &c..	7	13
8. Childbirth, Diseases of the Uterus, &c.	7	9
9. Rheumatism, Diseases of the Bones, Joints, &c.	13	7
10. Skin, Cellular Tissue, &c.	2	1
11. Old Age	47	73
12. Sudden deaths	6	14
13. Violence, Privation, Cold, and Intemperance	19	37

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	29	Paralysis	25
Measles	15	Convulsions	35
Scarlatina	81	Bronchitis	86
Hooping-cough	59	Pneumonia	84
Diarrhœa	15	Phthisis	119
Cholera	61	Dis. of Lungs, &c.	9
Typhus	56	Teething	11
Dropsy	16	Dis. of Stomach, &c.	9
		„ Liver, &c.	8
Hydrocephalus	23		
Apoplexy	19	Childbirth	4

REMARKS.—The total number of deaths was 38 above the weekly *winter* average. In our last summary, by a typographical error, "below" was printed for "above." It will be seen that the deaths registered this week are fewer by 272 than in the preceding week.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 29·84
„ „ „ Thermometer[a] ...... 30·7
Self-registering do.[b] .... Max. 48·9 Min. 17·2

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·24.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was no less than 5·4° *below* the mean of the month.

NOTICES TO CORRESPONDENTS.

We are obliged to a correspondent for forwarding us an extract respecting the late Mr. Callaway. We regret that it did not reach us earlier.

We have to announce to a correspondent, who has sent us part of a work in sheets, that we do not make analytical notices of books until they are published, and in the hands of the profession.

We have to thank the Rev. J. Barlow for his note and enclosure.

Dr. Snow's paper, in continuation, has been received.

The space assigned in our review department to the subject of Cholera, has compelled us to postpone the papers of Dr. Wells, Dr. Adams, Mr. Stafford, and Mr. Smith; also the Report of the Manchester Society.

Dr. Brooks's request shall be attended to. The communication shall be inserted with as little delay as possible.

Mr. G. B. Childs.—We shall have great pleasure in publishing the letter referred to, but as it was marked private, it can only appear with Mr. Richard Moyle's consent.

Mr. J. Jones.—Dr. Day gave us a written promise that the republication of his Lectures should be recommenced in September last, and continued with regularity. We have been unable to procure more than one lecture, and that with some difficulty. We can assure our correspondent that we should not have commenced the publication of the course, but under the promise that it would be regularly carried on until completion. The breach of promise does not rest with us, but with the lecturer.

THE GENERAL INDEX.

We have to announce to our Subscribers that a GENERAL INDEX to the *first* 40 *Volumes* of the LONDON MEDICAL GAZETTE will, it is calculated, form a large Volume of about 700 pages. The cost of the INDEX VOLUME, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. WILSON AND OGILVY, 57, Skinner Street, will receive the Names of Subscribers.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

BY BRANSBY B. COOPER, F.R.S.

Surgeon, and Lecturer on Surgery at Guy's Hospital.

LECTURE XLVII.

STONE IN THE BLADDER (continued).—*Division of the operation of lithotomy into four steps—position in which the patient must be placed—difficulties arising from deformity in the patient—case—introduction of the staff—first step of the operation, viz. laying open the perinæum—second step, laying open the pelvis—chief points of consideration—danger of wounding the artery of the bulb of the urethra—mode of stopping the hæmorrhage—third step, opening the bladder—fourth step, removal of the stone by the forceps—difficulties arising from the situation, form, or size, of the stone—friability of calculi—removal of broken portions by the scoop—necessity for extreme gentleness in the manipulation—difficulty in seizing the stone by the forceps—treatment of the patient after the operation—case—the operation sometimes requires to be repeated—cases—treatment after operation.*

THE operation of lithotomy may be divided into the following steps:—

1st. Laying open the perinæum.
2nd. Laying open the pelvis.
3rd. Laying open the bladder.
4th. Extracting the stone.

In the operation, the patient should be placed upon a table about two feet four inches in height: he should be secured by ligatures confining the palms of the hands to the soles of the feet; and in adults another ligature should be passed under the hams and fastened at the back of the neck. An assistant on each side takes hold of the knees, so as to separate the legs, using at the same time a certain degree of downward pressure to keep the pelvis well fixed upon the table. A difficulty may occur in confining the patient in this position, which is so essential to afford the necessary facility to the operator, in consequence of some deformity in the patient,—as anchylosis of the hip or knee, and I have myself had to perform the operation of lithotomy under these disadvantageous circumstances. Some years ago, I was sent for to Wangford, in Suffolk, to remove a stone from a patient who had an anchylosed hip; for, although the surgeon had frequently successfully operated for stone, he was unwilling to incur the responsibility under these peculiar and difficult circumstances. In this case, the sound leg was tied up in the usual way, while the anchylosed limb was merely supported by the hand of an assistant. Before I commenced my operation I expected considerable difficulty, from the impossibility of abducting the diseased limb, and met with some impediment in cutting into the membranous part of the urethra: the unusual position, however, offered no other inconvenience in the further steps of the operation, and rather a large stone was removed in about two minutes. My colleague, Mr. Hilton, was present at this operation, which proved successful. I have, in two other instances, operated under circumstances

FIG. 1.

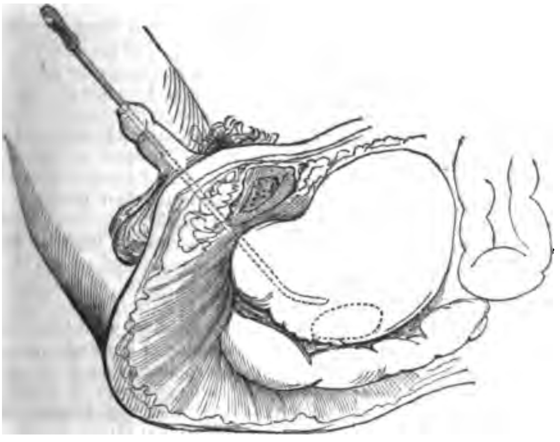

Fig. 1 shews the relative position of the parts implicated in the operation for stone, the straight staff being introduced preparatory to making the first incision.

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where, from former disease of the knee-joint, patients could not be secured in the usual way; but in these cases, the integrity of the hip admitting of the full exposure of the perineum, no great amount of difficulty was encountered. In very fat people it is also frequently necessary to modify the method of securing the patient, in consequence of their being unable to grasp the soles of their feet, and under these circumstances the wrist must be secured by the ligatures above the ankles. In some cases it may also be necessary, where there is difficulty in passing the staff, to do so before the patient is bound, but otherwise it is best to confine him first in the proper position, as the instrument is liable to be struck by the assistant while securing the patient. In thus arranging the patient, the body should be disposed in as easy a position as possible, and the shoulders should be raised by pillows placed so as to afford a general and equable support to the back. The preparations being completed, the staff should be introduced, and the stone being felt (which should be done by others as well as the operator), the instrument is given to an assistant to hold firmly with his right hand, he standing on the left side of the patient. It must be remarked that if the straight staff be used, it cannot be brought to a right angle with the horizon, as the curved staff can, but only to an angle of about 45° (vide fig. 1, preceding page); beyond this it should not be raised, as its point is then liable to be drawn out of the bladder.

The *first step* of the operation is performed by laying open the perineum (vide fig. 2): this is effected by an incision through the integuments, fat, and superficial fascia. The incision is to commence a little to the left side of the raphe, and about a finger's breadth below the point of junction of the raphe of the perineum and that of the scrotum, and to be continued downwards and obliquely outwards to a point midway between the centre of the verge of the anus, and the tuberosity of the ischium. A triangular space is thus laid open, bounded above by the membranous part of the urethra; below by the transverse muscle and artery of the perineum; on the inner side, and in the mesian line, by the accelerator urinæ muscle; and on the outer by the erector penis. Nothing untoward can be expected to occur in the performance of this step, unless a fistulous opening or abscess be exposed, or sufficient hæmorrhage occur, from the necessary division of some of the branches of the superficial perineal artery, to require a ligature to arrest it.

FIG. 2.

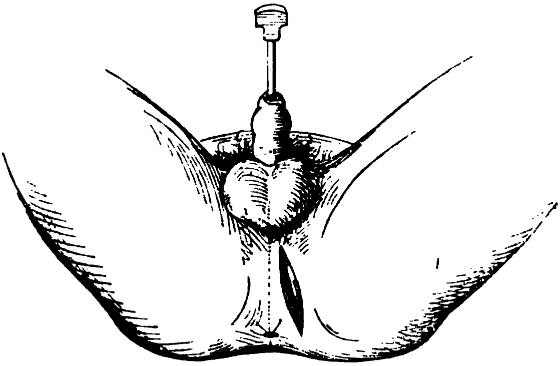

Fig. 2 shews the situation and extent of the first incision for the purpose of laying open the perineum.

The *second step* consists in laying open the pelvis. This is done by passing the forefinger of the left hand to sufficient depth in the upper part of the wound to feel the groove of the staff through the membranous part of the urethra. Into this groove the point of the knife is to be introduced, so as to get beyond that portion of the deep fascia termed the triangular ligament of the pubes; the knife is then carried downwards in the same direction as in the first incision; and thus the whole length of the deep fascia of the perineum is divided, together with the transverse muscles and artery of the perineum, and some fibres of the accelerator urinæ. (Vide fig. 3, next page.)

The principal point to be here observed is the opening of the urethra at its membranous part, avoiding as much as possible the bulb, and its large artery. It is also in making this incision that the rectum is liable to be wounded: but this may always be avoided by the oblique direction of the incision towards

FIG. 3.

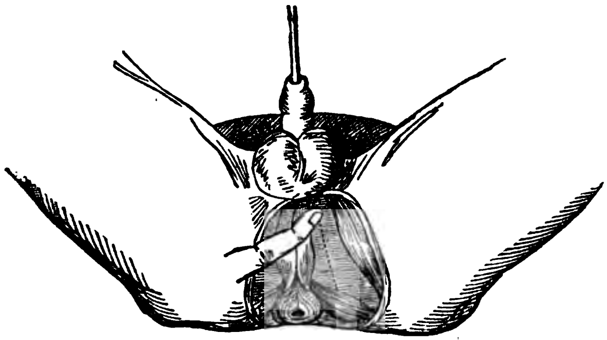

Fig. 3 shews the deep structures of the perineum, the skin, superficial fascia, and fat, being removed; the dotted line shews the incision through the deep fascia; the bulb of the urethra is held aside by the forefinger of the left hand of the operator.

the tuberosity of the ischium, as well as by the precaution of having the bowel perfectly emptied before commencing the operation. Many surgeons defer opening the urethra until they proceed to cut into the bladder, but I prefer commencing the second step as above directed; first, because it affords a precise point from which to commence the second incision; and secondly, because it secures the complete division of the deep fascia, a portion of which may otherwise be left undivided, requiring, probably, a subsequent further division, as it may offer an impediment to the extraction of the stone. Notwithstanding every precaution, however, the artery of the bulb is sometimes wounded, and, from the depth of its situation, and its tendency to retract, it is very difficult to secure; nor should much time be lost in the attempt, but the operation finished, and then, by pressure, the bleeding may generally be stopped. My friend, Mr. Travers, had, some years ago, great difficulty in arresting bleeding from the artery of the bulb; he succeeded, however, by the ingenious and scientific expedient of placing a hard compress of cork under his recumbent patient, in such a situation that the weight of the body compressed the internal pudic artery between the compress and the spinous process of the ischium, so as to completely check the hæmorrhage. The precise point at which the compress should be placed, may be ascertained by drawing a line from the upper part of the trochanter major to the articulation of the os coccygis with the sacrum. At the junction of the inner with the middle third of this line is situated the spinous process of the ischium, and the internal pudic artery passes immediately over it. The propriety of placing the patient, under these circumstances, upon a hard mattress is sufficiently obvious.

Should the transverse artery of the perineum occasion a troublesome hæmorrhage, as it sometimes does after its necessary division in this step of the operation, it may be readily secured, from its comparatively superficial situation.

Some difficulty may occur in this second step of the operation in opening the membranous portion of the urethra, particularly to surgeons who have been in the habit of using the curved staff; as, with the straight one, the depth appears much greater, from the absence of the usual curve of the instrument, which presses towards the perineum, and brings the urethra forward; but, in my opinion, this apparent facility is detrimental to the operation; and its absence, in truth, constitutes one of the great advantages to be derived from the use of the straight staff: for the bulb not being pushed forward, is more easily avoided than when the curved staff is employed. This is an object of the greatest importance, not only from the circumstance of the artery of the bulb being left undivided, but also on account of the more direct opening which is made through the perineum into the bladder.

The *third step* consists in the division of the whole length of the membranous portion of the urethra and of the prostate gland, for the purpose of laying open the bladder. With this object the surgeon again passes the knife into the groove of the staff, as at the commencement of the second step; and having ascertained that the knife is in the groove, without *any interposing substance*, he takes the staff from the assistant with his left hand, and depresses the handle until he brings it parallel with the knife and the long axis of the pelvis: thus acquiring a direct passage for the knife into the bladder (vide fig. 4, next page). To accomplish the opening of the bladder in the safest manner, the groove of the staff, and the edge of the knife should be simulta-

FIG. 4.

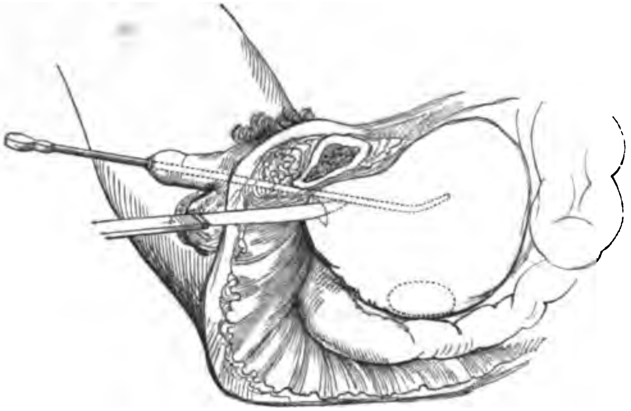

Fig. 4 shews the position of the depressed staff, with the knife inserted into the groove, for the division of the membranous part of the urethra and prostate gland, for the purpose of laying open the bladder.

neously directed towards the left side of the patient, at such an angle that the passing of the knife will form an incision in a direction corresponding to those already made. If a cutting gorget be used instead of the knife, its edge should, in like manner, be laterally directed. In passing the knife along the staff into the bladder, the surgeon can regulate at will the size of the opening, on the entrance of the knife by the angle at which he holds it with the staff; and if the knife be passed parallel with the staff, he has the power of enlarging the opening as the knife is withdrawn. The parts divided in this section are, the urethra, prostate gland, and the fibres of Wilson's muscle on the left side. By far the most important point to be attended to in making this section is, not completely to divide the left lobe of the prostate, —for, if the fascial covering of the gland be cut through, urine is sure to extravasate into the cavity of the pelvis, and this there can be no doubt is the most frequent cause of death after the operation of lithotomy. In fact, although I have stated that the object in the third step of the operation is to lay open the pelvis, correctly speaking this is not done; as its fascial boundaries should remain entire, with the exception of the small opening which is made in that part of the fascia covering the pelvic portion of the urethra. The angle at which the cutting edge of the knife is passed through the prostate is not only important as to the direction of the incision which it makes, but also on other accounts. If it be too much directed outwards, it is liable to wound the artery of the bulb close to its origin from the internal pudic; and if it be directed too much downwards, the rectum, vesicula seminalis, or vas deferens, may be injured. If the artery of the bulb be cut in this step of the operation, so as to cause any continued bleeding, a canula, surrounded with a firm compress of lint, should be passed into the bladder. By this means the bleeding vessel may be compressed during a sufficient length of time for its becoming closed, while at the same time the urine can make its escape. I do not myself believe that the internal pudic artery is ever, or can be, wounded in the operation for lithotomy, unless it happens to be the subject of some variety in its course: this may sometimes occur, but would, I think, be easily ascertained by the surgeon, during the operation, feeling for the pulsation with his finger, as soon as he has divided the deep fascia of the perineum, and consequently before he commences the third step of the operation.

The *fourth step* comprehends the introduction of the forceps, the grasping the stone, and its removal from the bladder.

When the bladder has been opened, as already described, the entrance of the knife is usually indicated by a gush of urine; but this is not always the case, and the surgeon is not therefore to consider that he has failed in his intention because no urine flows; for if the opening he has made be no larger than the knife or other instrument by which he has divided the prostate, the water may not escape. Having opened the bladder, the operator should commence the fourth step, by taking the staff in his right hand, and introducing the fore finger of his left into the bladder, to ascertain the size of the opening he has made through the prostate, and also, if possible, the position of the stone. If the opening of the prostate be small, it is to be enlarged by the finger, and this is very readily and safely done, owing to the peculiar structure of that organ; the wound being made of sufficient size, and the finger still retained in it, the closed forceps are to be passed along the finger into the bladder; in fat people, it sometimes happens that the finger of the operator is not sufficiently long to reach the bladder: in that case, the blunt gorget should be employed as a director for the forceps: this is also an excellent instrument for enlarging the opening through the prostate, when from an abnormal hardness of that gland the finger is not competent to the purpose. When the forceps have been introduced, they are to be first used as a sound, to ascertain the precise position of the calculus; and when that is felt, the blades are to be opened, and the stone gently grasped and drawn forward (vide fig. 5), so as to enable the surgeon to examine its size and figure by means of the finger of the right hand, and alter its position in the forceps, should it not have been seized in the manner most favourable to its extraction through the wound: when the stone is conveniently placed in the forceps, the flat part of the blades is to be turned towards the pubes and the rectum, and the stone removed by drawing it forwards and downwards towards the anus. In effecting this object, many difficulties may occur: these may arise from the position, form, consistence, and size of the stone: the surgeon's judgment must be exercised to overcome these; but I have known them prove insuperable under the hands of the best surgeons. Occasionally, soft or friable calculi crumble to pieces before they can be extracted; in such cases it is necessary to remove as much as possible with the forceps and scoop, the remaining particles being washed out by injecting tepid water into the bladder, which process may be perhaps facilitated by supporting the patient in the erect posture during the injection. In the extraction of the stone, too much stress cannot be laid upon the necessity for gentleness in the various necessary manipulations; and when force is required, as it must often be in the extraction of large calculi, it should be applied gradually as well as cautiously, in order that the soft parts may yield to the passage of the stone, and not be unnecessarily lacerated. A difficulty frequently occurs in this step, and is perhaps the greatest the lithotomist has to contend with—namely, that of seizing the stone with the forceps: this difficulty may happen without any apparent cause, for the sound perhaps readily detected the presence as well as the position of the stone just before the bladder was cut into. The form of the calculus leads sometimes to a difficulty in its extraction; as, for instance, a very round smooth stone slips from the gripe of the forceps; and a very small one eludes their grasp, and even when between the blades, its presence is not always indicated by the handles of the forceps, from its being too small to cause their separation. It has happened to myself; and I have seen others remove the forceps from the bladder of children, with the intention of introducing them again to search for the stone, but have found it lying in the hollow of the blades: it is better, therefore, when the stone is thought to be small, to use flat-bladed forceps, which readily indicate

FIG. 5.

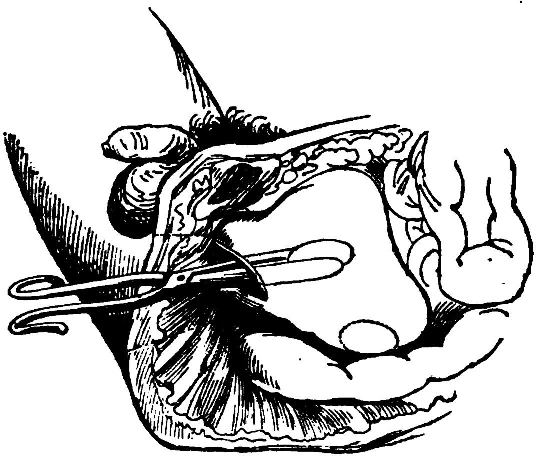

Fig. 5 shews the position of the forceps holding the stone for its extraction from the bladder.

the presence of any substance between the blades, from its preventing the close approximation of the handles.

When a round stone slips from the grasp of the forceps, a longer and larger pair should be substituted, presenting a greater extent of surface of contact: indeed, I think that all ordinary forceps are made too small, or, at any rate, too short for adult subjects.

Immediately after the stone has been removed, the bladder should be carefully searched, to discover if any other stone be left; it being ascertained that this is not the case, the patient should be released from his painful position by the removal of the ligatures; but he should not be put into bed until all bleeding has ceased. When placed in bed, the thighs should be somewhat raised, by putting a pillow under the hams, and the shoulders also should be elevated, to relax the abdominal muscles. The knees ought not to be tied together, as is frequently recommended; for in case of bleeding it tends to direct the blood into the bladder, where it may accumulate, unperceived, to a dangerous extent, and produce great constitutional disturbance. I have frequently known severe rigors supervene a few hours after the operation, and which have been relieved directly a coagulum has been expelled from the bladder by its own muscular efforts. No lint or dressing of any kind should be applied to the wound; but in adults, a dose of opium should be administered directly after the operation: this practice is more particularly required when the size of the stone, or other circumstances, may have led to a protracted operation. But in children, on whom it rarely occupies more than a minute or a minute and a half, it is better not to give any narcotic, or at any rate not until bed-time, when some syrup of poppies may be administered, to ensure quietude, if not sleep. The principal treatment after the operation consists in keeping the patient perfectly dry; and a doubled sheet should be placed under the nates, to be removed directly it becomes wetted by the urine, a clean one being substituted. Urgent symptoms, however, too well known to every surgeon, do frequently occur, especially in cases in which the stone has been large, and required considerable force for its removal; or when the stone has broken, rendering necessary the frequent introduction of forceps for the extraction of the fragments. But in my opinion the great source of danger is the too free incision through the prostate gland, dividing the pelvic fascia, and so permitting evtravasation of urine into the cavity of the pelvis. This misfortune is evinced by a quickened pulse, hot skin, dry tongue, anxious countenance, and tenderness over the lower region of the abdomen, occasionally attended with rigors—by all the symptoms, indeed, of ordinary phlebitis. Severe antiphlogistic means must not be employed under such circumstances: leeches, and fomentations to the abdomen, with calomel and opium, and serpentary with the liq. ammon. acet., are the remedies which should be administered. But when the extravasation has produced extensive inflammation, of the peculiar character which usually follows this condition, but little hope can be entertained of the patient's recovery; and he sinks rapidly under typhoid symptoms, attended with muttering delirium. Let me again, therefore, urge the necessity of making the opening through the prostate with the knife, or any cutting instrument employed for its section, as small as is compatible with the object in view. If the patient goes on favourably, about eight or ten days after the operation the urine begins to pass by the natural passage, owing to the obstruction offered to its exit through the healing of the wound in the prostate gland. Should the non-passage of the urine through the urethra be protracted beyond this period, it may be assisted by the occasional passing of a catheter; but it rarely happens that this interference is necessary. In cases in which the calculus is too large to be extracted by the lateral operation, I believe it would be advisable to crush it by an instrument constructed for the purpose, similar to the lithotrite, only shorter and much stronger, so as to break the stone into two or three pieces, which may then be removed with the forceps. The surgeon, therefore, when from examination he expects to meet with a large stone, should be furnished with such an instrument, that he may apply it as soon as he meets with the difficulty, and not be forced to submit his patient to the operation *à deux temps*, which has been recommended by some surgeons, but which I consider in the highest degree objectionable.

In the three first steps of the operation of lithotomy no serious difficulties can arise: at least, none that cannot be readily overcome by ordinary skill and anatomical knowledge; but in the fourth step—that is, in seizing the stone—formidable obstacles, and those of the most anomalous character, will frequently be encountered. In this part of the operation I have sometimes employed successively forceps of various forms and sizes, without being able to grasp the stone, when suddenly it could easily be seized perhaps with the very instruments that had before been used unsuccessfully; and no reason for this could be discovered, unless it arose from the relaxation of the muscles of the bladder which had hitherto contracted upon the stone, defending it from the blades of the forceps.

I lately admitted into Guy's Hospital a

patient, 72 years of age, who was suffering from stone in the bladder, and, on sounding him, I discovered a large rough stone; and, passing my finger into the rectum for further examination, I so distinctly felt the tuberculated irregularity of its surface, that I was convinced that it was an oxalate of lime calculus. Under these circumstances, I considered the operation of lithotrity inadmissible, and proceeded to make an examination of the conformation of the perineum. I found the lower opening of the pelvis extremely contracted, the distance between the tuberosities of the ischia not being more than an inch and a half; so that the operation of lithotomy was equally unavailable with that of lithotrity; for, on measuring the stone by means of a lithotrite, I found its diameter to exceed considerably that of the lower opening in the pelvis itself.

Upon the contemplation of the difficulties that presented themselves in this case, I had determined, in my own mind, to prepare the patient for the operation, and to proceed in the following manner: first, to break the stone by means of a lithotrite into two or three pieces, and then immediately to proceed to the operation of lithotomy for the extraction of the fragments; but, probably from the irritation set up by the examination he had undergone, although no difficulty was experienced at the time, nor did he complain of much pain, great aggravation of the symptoms of stone occurred, irritative fever supervened, and in four days the patient died. The plan I proposed in this case may seem inconsistent with that just recommended, viz. to break down the stone after the bladder is opened; but, on deliberation, I considered it safer to use the lithotrite whilst the bladder was intact, and could therefore be injected, rather than to attempt to seize the stone with an instrument after the bladder had been opened, and had collapsed upon the stone itself.

It is not very uncommon for the operation of lithotomy to require repetition, although, from the appearance of the stone, and the care taken by the operator in the first operation, there was every reason to believe that no portion was left in the bladder. I have seen Mr. Martineau and Dr. Rigby, of Norwich, both perform a second operation in cases of calculus. Sir Astley Cooper has also in more than one case operated a second, if not a third time; and I have myself performed the operation three times on the same individual in a period somewhat short of four years. My patient was a farmer in the vicinity of Bedford. Mr. Williamson, Mr. Beck, and two or three other surgeons of the neighbourhood, were present at these operations. In none of them was the stone broken: in each, careful examination was made to ascertain if any calculus remained, and all present were satisfied that nothing of the kind was left in the bladder. Notwithstanding all these precautions, it became necessary to cut the patient a second and a third time at the expiration of about fourteen months between each operation; and I am happy to say that he is still alive, and perfectly free from calculous disease, twelve years having now elapsed since the last operation.

It has been recommended by some lithotomists, that in second operations the incision should be made on the right side of the perineum, rather than through the old cicatrix; but I think this perfectly unnecessary and wrong, because it is inconvenient. In the case I have just alluded to, I operated each time on the left side, and the wound healed as readily after the third as after the first operation: indeed, in three weeks, he attended in the fields, as the operation happened to be performed during the hay harvest.

Before a patient who has been submitted to this operation be dismissed from medical care, the stone, as well as the urine, should be analysed, that appropriate remedies may be prescribed to diminish the liability to the recurrence of the disease.

Patients should not be kept on spare diet after the operation of lithotomy, nor, indeed, after any severe ordeal of the kind. It should always be remembered that you cannot diminish constitutional power without increasing irritability; and that, consequently, support is generally requisite, and should be early prescribed.

I am sure that one of the greatest modern improvements in the treatment of patients who have undergone surgical operations is with respect to the better diet that is early advised; and hence, I believe, arises the greater comparative success of operations in this than in any other country.

THE HUNTERIAN ORATION FOR 1849.

We have to announce that the Hunterian oration for 1849 will be delivered, on the 14th February, in the theatre of the Royal College of Surgeons, by Mr. Cæsar Hawkins, surgeon to St. George's Hospital.

THE VACANT EXAMINERSHIP AT THE ROYAL COLLEGE OF SURGEONS.

At a meeting of the Council, on the 11th inst., Mr. John Flint South, one of the surgeons of St. Thomas's Hospital, was elected an examiner, in the vacancy occasioned by the lamented decease of Mr. Samuel Cooper. Mr. South took his seat at the meeting of the Court of Examiners on the 12th inst.

CLINICAL LECTURE
ON
CASES OF HÆMATURIA,

Delivered at King's College Hospital,

By R. B. Todd, M.D. F.R.S.
Physician to the Hospital.

(*Reported by* Mr. H. H. Salter, Med. Schol. K.C.L.)

I have chosen Hæmaturia as the subject for my clinical lecture of to-day, gentlemen, because there are now in the hospital four cases which exhibit that condition of the urine, and which afford a very favourable opportunity for studying some points in the clinical history of this form of hæmorrhage.

Before entering upon the detail of these cases, I will premise that hæmaturia is only a symptom, and, like all cases in which the symptoms have given rise to the nomenclature, it will draw into its consideration all those conditions which are capable, as agents, of producing it. To show that it is a mere symptom, and one which may arise in various ways, will be the principal object of my lecture to-day.

The first object of inquiry is—*what is the source of the blood?* How comes it to be mingled with the urinary secretion? It may come from the fountain head itself of that fluid, and be poured out from the Malpighian bodies simultaneously with the watery element of the urine, or it may be mixed with the urine, merely from that fluid flowing over or near the bleeding surface: thus, blood escaping from any other part of the kidney but the Malpighian bodies, or from the ureter, or from the bladder, will readily mix with the urine; and lastly, in women, the catamenial blood, or any hæmorrhagic flux from the uterus, will occasion hæmaturia.

The last case we may dispose of first and summarily. In all cases of hæmaturia in the female, you will of course satisfy yourselves of the condition of the uterus, and if there be uterine hæmorrhage of any kind, you will have to suspend your judgment respecting the source of the blood in the urine, until the flow from the uterus shall have ceased. Fortunately the internal remedies directed against the uterine hæmorrhage are likely to prove equally beneficial when the blood comes directly from the urinary organs themselves.

The most important point of diagnosis in hæmaturia is to determine whether the blood flows from the bladder or from the kidneys,—in other words, we are to distinguish renal from vesical hæmorrhage. This is sometimes difficult, but most frequently it is sufficiently plain. If the blood come from the bladder, there is generally some local pain on pressure, or some disturbance of the functions of that reservoir, as denoted by pain before or after micturition, or frequency of micturition. The blood, too, in cases of this description, is apt to form clots in the bladder, which sometimes impede micturition; it is not uniformly diffused through the urine, as in renal hæmaturia; and in evacuating the bladder, the urine comes away, at first, either wholly discoloured, or very slightly coloured, but the last portion of it is deeply-coloured, and seems to consist solely of blood: sometimes, indeed, pure blood does come away at the end of the micturition.

On the other hand, what are the symptoms which will lead you to think that the blood comes from the kidneys? In such a case you will naturally expect to find some indications of renal affection—as pain in the lumbar region, particularly if felt over one kidney; you will find likewise the blood diffused uniformly throughout the urine; there will be an absence of clots, the urine being alike throughout, and that passed early being just the same as that passed at the end of the stream. There is one exception to the absence of clot in renal hæmorrhage, and that is, where the blood flowing from the kidney independently of the urine, coagulates in the ureter, so as to form a mould or cast of it, which is afterwards forced into the bladder, and thence expelled in micturition. Further aid in the diagnosis between renal and vesical hæmorrhage is obtained by the use of the microscope. If the blood is from the bladder, we see more or less of vesical epithelium mixed with the blood-particles: this form of epithelium is flat and scaly, and sufficiently easily distinguishable from that of the kidney, which would be more likely to be present when the hæmorrhage came from the kidney; the renal epithelium being more or less globular, and frequently accompanied by, and entangled in, small casts of the uriniferous tubes of the kidney.

You will of course bear in mind that the amount of blood varies infinitely, from a small quantity, occasioning scarcely any discolouration of the urine, or giving rise, in a greater or less degree, to that peculiar smoky hue, as if the urine were mixed with soot, which is generally very characteristic of the presence of blood in the urine, to such a quantity as gives the urine more or less decidedly the colour of blood. When the quantity of blood is small, the reaction of some of the ingredients of the urine darkens the colouring matter, and gives the peculiar smoky hue; but when the blood is in large quantity, this change of colour takes place only to a very limited extent.

Having said thus much on the general rules that are to be observed in our diagnosis of hæmaturia, I shall now proceed to the detail of the cases to which I have particularly to direct your attention.

CASE I.—The first case is a remarkable one. The patient, William Burrowes, æt. 23, was admitted into the Sutherland ward, on the 2nd of June, labouring under rheumatic fever, and he is now (June 13) suffering under that disease, accompanied with severe pericarditis. Almost from the commencement of the rheumatic symptoms, he had passed blood in his urine; and when he was admitted his urine contained lithates in large quantity, in addition to the blood. The hæmorrhage is gradually getting less, but not until the amount of blood lost has been very great. This I consider a very peculiar case—such a one, indeed, as is very rarely met with; and from the entire absence of vesical symptoms I should not hesitate to say that the blood is from the kidney.

Now, what can be the cause of the hæmorrhage in this instance? You may remember that I told you in my last clinical lecture, that it was common to find, in the course of certain diseases dependent on the presence of morbid matters in the blood, more or less irritation of the glands through which the morbid matter is eliminated. The glands especially concerned in the elimination of the poison of rheumatic fever, are the kidneys, and, in the present case, the irritation has been extreme. As a result of it, a great afflux of blood to these organs takes place; and if this engorgement attains a certain intensity, the delicate vessels of the Malpighian bodies give way, and the blood escapes. Now we have many cases to prove that hæmaturia may be caused by the irritation of the kidneys, excited by a substance which can reach the gland only through the blood. It is well known that turpentine and cantharides will both irritate the kidneys, when administered in large doses. Cantharides in small doses excites the kidneys, and increases the secretion of the urine, but the excessive excitement produced by large doses diminishes the flow of urine, the state of engorgement being too great to be compatible with the healthy functions of the organ; finally the vessels yield, and hæmorrhage is the result. The effect of turpentine is the same. And when you examine the kidneys of patients who have died after taking turpentine, as I had the opportunity of doing not long ago by the kindness of Dr. Johnson, you find many of the uriniferous tubes, and of the Malpighian capsules, full of blood; thus clearly denoting the precise source of the hæmorrhage. In the present case, lithic acid was the principal irritating agent, as was shewn by the great abundance of lithates with which the urine was loaded. Sometimes oxalate of lime is formed and is discharged with the lithates, as in the present case. Now oxalate of lime is a very irritating substance; and thus in the present case there were probably two sources of irritation—the lithic acid, and the oxalate of lime.

Treatment.—The principal indication in a case of this sort is to promote active elimination by other emunctories besides the kidneys, and so to relieve these organs as much as possible. Thus it will be necessary to excite the action of the skin by diaphoretics; of the bowels by purgatives. Counter-irritation over the region of the kidneys may also be advantageously employed, or, if the patient is robust, a small cupping may be of use; but the strength of the patient, and the amount of the hæmorrhage, should always be carefully taken into account prior to the application of this remedy. In this case we should not be justified in taking away blood, the patient being already greatly anæmiated. Sometimes, however, the rapid and sudden abstraction of a small quantity of blood will put a stop to the hæmorrhage at once. And this acts, perhaps, on the principle of revulsion, or of counter-irritation. If you have recourse to counter-irritants, you must be careful to employ mustard, and to avoid turpentine and cantharides, the active principles of which, even when they are applied to the skin, are readily absorbed, and may exercise a pernicious influence on the urinary organs.

Now let me call your attention to a circumstance in this case that is worthy of your notice: it is the obstinacy that the rheumatic symptoms have exhibited, and probably will yet exhibit, as contrasted with the case of the woman I referred to in my lecture on Rheumatic Fever, in whom the eliminatory plan of treatment was exclusively adopted. That woman lost no blood, and, although she had active inflammation of the pericardium, and the fever was of a very intense character, she proceeded rapidly to convalescence, with scarcely a bad symptom. This man has lost blood in large quantities from his kidneys: the bleeding began at a very early period of the rheumatic attack, yet it has not sufficed to keep off a severe attack of pericarditis, in which not only lymph was deposited, but a large quantity of liquid effusion poured out, accompanied by severe dyspnœa; nor has all this loss of blood saved our patient from the pain and trouble of swollen and exquisitely painful joints, into each of which copious effusion has taken place. On the contrary, the articular, as well as the cardiac symptoms, have been much less tractable than usual, and have resisted the treatment employed with an obstinacy which contrasts remarkably with the readiness with which similar affections, in Elizabeth Stocking's case, yielded to a similar treatment. Now I do not say that the phenomena of this case justify us in at once inferring that they were due to the loss of blood. All that I wish to impress upon you is, that the early removal of blood has not in this case had the effect of arresting the rheumatic state; but—and especially if you compare the case with the very similar one of Stocking—it has appeared to aggravate and prolong the rheumatic symptoms.

Case II.—The second case is also well worthy of your attention, as an instance of hæmaturia accompanying and forming the sequel to a very formidable disease—namely, inflammatory dropsy, or dropsy arising from inflammation of the kidney.

J. Pickford, æt. 40, a labourer, was admitted into the hospital on the 15th of May. His habits have been temperate, but he seems to have been getting into a bad state of health for some time past, as he had abscesses in his axilla and elsewhere a fortnight before his admission. Soon after these appeared, œdema came on, first in his feet, but very soon afterwards in his upper extremities and face: finally, the effusion took place in his scrotum and abdomen; and when he entered the hospital he was universally dropsical. One of his most prominent symptoms was scantiness of urine, which did not amount to more than from three to four ounces in twenty-four hours; of specific gravity, 1020, very bloody, and nearly solidified by the addition of nitric acid: so small was the quantity of urine that for two or three days I feared that there might be a total suppression of the secretion. However, on the 17th, the quantity increased to eight ounces; on the 18th, it was six ounces, of specific gravity 1025; on the 21st, seven ounces; on the 22nd, it rose to sixteen ounces, nearly half the normal quantity; on the 23rd, he passed twelve ounces; and on the 24th, twenty ounces. Throughout this period the urine contained blood-corpuscles in great numbers; it was free from crystals of any kind, but contained a great number of fibrinous casts and renal epithelia, which left no doubt as to the blood having its source in the kidney.

The state of the kidneys in this case was probably owing to exposure to cold, but the attack cannot be traced to any particular instance of exposure. Cold, however, is the most common cause of this state of kidney, particularly if accompanied with a sudden suppression of sweat. Under these circumstances, some morbid material is retained in undue quantity in the blood, which irritates those organs through which it is eliminated, in a manner similar to that in which the morbid matter or poison of rheumatic fever is eliminated. In this way an irritated and inflamed state of the kidney is induced, which sometimes terminates in destructive disease of the organ.

The indications for treatment afforded by a case of this kind are very obvious: they are to restore the defective action of the skin — to soothe and relieve the irritation of the kidney—and to promote the elimination of water from the system.

We have in the hot-air bath a very valuable and ready means of exciting the action of the skin: this was consequently used with our patient from the beginning, and with the effect of promoting sweating while he was in the bath, as well as afterwards. After the hot-air bath has been frequently used, it produces a state of great debility; and this constitutes the chief difficulty in continuing it, in order to gain the greatest benefit from it. In this instance I carried into effect the Russian practice of dashing the patient with cold water immediately he came out of the bath. The effect in this, as in other cases in which I have tried the plan, was certainly to give the patient a greater tolerance of the remedy, and, at the same time, by the reaction which succeeded the cold dash, to cause more active sweating on his return to bed.

With the hope of relieving the active congestion of the kidney, our patient was cupped over the loins, and several ounces of blood were taken away. I cannot say that he derived any benefit from this: and, I must confess that in the treatment of similar cases I have been more frequently disappointed than satisfied by topical bloodletting when the congestion of the kidney was active. I suspect that as long as the morbid matter is undergoing elimination through the kidney, and keeping up irritation of the gland, local bloodletting does little or no good. If a particle of dust gets into the eye, it excites conjunctival inflammation,—you may leech the eye, day after day, until your patient is blanched,—yet active congestion of the conjunctiva will continue; but remove the particle of dust, and the congestion will quickly subside. So with the kidney,—you will do more to relieve the active congestion of which it is the seat, by opening new channels for the elimination of morbid matter—restoring and promoting the action of the skin, and increasing that of the bowels—than by the withdrawal of blood. But when these evacuations have been some time in action, and the congestion of the kidney has assumed a passive character, then the removal of blood by cupping, or by leeching, will often succeed in relieving the congestion.

The third indication, that of promoting the elimination of water from the system, is in some degree fulfilled by the sweating process; but the use of drastic and hydragogue purgatives supplies us with a very efficient means of getting away a considerable quantity of fluid through the intestinal canal. For the generality of cases you will find that which we employed in this case the most efficient remedy of this class—namely, the compound powder of jalap: it is a safe, and sufficiently active medicine. In other instances, elaterium may be resorted to, but this is a much more violent remedy, and likewise very uncertain, owing to the difficulty of procuring it in a state of purity.

After the inflammatory condition of the kidney had been subdued by the means above detailed, and that the organ began to resume its secreting activity, as shown by an increase in the quantity of the urine, I administered the bitartrate of potass in diuretic doses. Now this would be apparently an unscientific plan of treatment, if this medicine be supposed to exercise any direct stimulating influence upon the kidneys. It is probable, however, that its diuretic powers may be due to some chemical or physical change which it produces in the blood; whereby the exosmose of its water through the Malpighian vessels is favoured. On this view no objection can exist to the employment of this remedy in inflammatory states of the kidney: and, indeed, experience tells so much in its favour, that we should not be justified in abstaining from employing it, merely on account of an hypothesis, which may or may not be well founded.

The renal hæmorrhage in this case appears to have been up to this time, when the kidneys began to act more freely, due to the state of inflammation into which the gland was thrown; as the urine began to flow, the hæmorrhage diminished considerably, but did not cease. On the 30th of May the secretion of urine was fairly re-established: on that day our patient passed two pints and twelve ounces of urine; on the 31st, two pints and eighteen ounces; on June 1st, three pints; after this the blood began to appear in the urine in increased quantity; and on the 6th of June the amount of urine passed fell to thirty ounces; on the 8th, to twenty-eight ounces. And now the hæmorrhage returned with greater violence than ever, so much so that the urine seemed almost like pure blood, and contained not only multitudes of blood corpuscles, but also the casts of uriniferous tubes, which we know are thrown off in the state of chronic nephritis. The condition of our patient at this time I viewed to be as follows:—The active congestion of the kidneys had passed away; the acute stage has passed, and a chronic nephritic condition has been established. Moreover, he has fallen into a *hæmorrhagic state*: he has become pale, his blood thin, and its nutritive powers no doubt greatly impaired, in consequence of which the vessels of the kidney have become weaker, and so, less able to maintain their integrity in opposition to the pressure of their contents. In accordance with this view I determined now to alter the plan of treatment, to abandon all antiphlogistic diuretic remedies, and to have recourse to the use of stimulants, astringents, and support. I have therefore given him plenty of nutritious food, and port-wine, and have applied counter-irritation, by mustard poultices, and as a styptic he has taken gallic acid, in four-grain doses, three or four times a-day. This treatment seems so far to have had a very good effect; the hæmorrhage has decreased considerably, and is fast disappearing.

Case III.—The third case is that of a boy named James Taylor, who is labouring under dropsy after scarlet fever. I call your attention to it now, merely because it affords another instance in which irritation of the kidney, from the presence of a poison in the circulation, some of which is being eliminated through the gland, gives rise to renal congestion and hæmorrhage, and causes albumen to appear in the urine after scarlet fever, even after the red particles of the blood have ceased to shew themselves in it. We now and then find it produced in the early stage of scarlet fever, even when the eruption is well out, but in general it does not appear until the desquamative stage, *i. e.* whilst the poison is passing out of the system. It is interesting to notice, that the cases in which the eruption has been trifling, and has not come out freely, are those in which the kidney is most apt to be affected, the work of elimination being thrown chiefly upon the kidney, and very little on the skin. Often the patient may have got well through the fever, and may have had a good convalescence: he goes out, is exposed to cold, and the next day dropsy appears, bringing in its train all the other symptoms of renal congestion.

Now the treatment in such cases, and which we have adopted in the case of the boy Taylor, is to be conducted on much the same principles as in the case which we have last considered—inflammatory dropsy: namely, to relieve irritation, and promote the elimination of water. I do not advise you to have recourse to early local bleeding in these cases; but if the congestion of the kidney lingers after the greatest quantity of the poison may be supposed to have been eliminated, then you will often find benefit from the local detraction of blood in quantities so small as not to affect the general strength of the patient.

Case IV.—The fourth instance of hæmaturia to which I shall refer is a very remarkable case: the hæmorrhage appears to have been, in the first instance, vicarious of the menstrual discharge. The patient, Mary Parsons, 16 years of age, having never menstruated, was admitted on the 22nd of May. About two months ago blood began to appear in the urine, without any apparent cause, and she experienced pains in her limbs, flying about from one part to another, supposed to be rheumatic: ever since this time she has continued passing blood in considerable quantities, so that the urine was quite of the colour of blood. By the loss of so much blood she has now become quite bleached. A venous murmur is very audible in the neck, but there is no bellows sound over the base of the heart, or in the arteries; there are no vesical symptoms; the blood is uniformly mixed, and comes away equally at the commencement as at the termination of micturition.

At the period of life of this girl, when there has been suppression of the menstrual discharge, it is not uncommon to find in its place a periodical hæmorrhage from some other part—either from the stomach, constituting hæmatemesis, or from the bowels, or, as in the present instance (and this is extremely rare), from the kidneys. It is difficult to say what determines the seat of the hæmorrhage, why it should be in one place more than another; probably the most irritable or weakest organ would be the one most likely to suffer, and in the present instance it is not improbable that there may have been a large secretion of oxalate of lime, which may have been the primary source of irritation, and that which determined the locality of the hæmorrhage: unfortunately the urine was not examined at the first, but yesterday, in looking at some through the microscope, I detected several octohedral crystals, which renders the above supposition not improbable. After the hæmorrhage has been once established, it is easy to imagine how it should be kept up: the blood becomes poor, the vascular system weak, and thus a *general* hæmorrhagic tendency is brought on, while the derangement that the kidney has suffered from the original attack determines that organ as the seat of the continued bleeding.

From the long duration of the hæmorrhage in this case (two months), and the state of extreme debility to which the girl was reduced, I was anxious to improve the state of her blood as much as possible, and to check the hæmorrhage. She was well supported, had a moderate allowance of port-wine daily, and took astringents, lead, gallic acid, tannin, the tincture of the sesquichloride of iron. The hæmorrhage, however, showed no disposition to stop; it diminished for a little while, but returned again with as much intensity as before. She is now again taking gallic acid in large and frequently repeated doses. If the hæmorrhage does not soon cease, I intend to try some of the terebinthinate medicines, which are supposed to exercise a styptic influence. There is no doubt that they do act favourably as styptics in intestinal hæmorrhage, but in renal hæmorrhage their power is much less certain, and moreover, they are very apt to excite irritation.*

Of the four cases which I have now given you, you will see that in two—the first and third—the hæmorrhage was due to irritation; in one, the second, it was first caused by irritation, and afterwards continued by the patient getting into a peculiar constitutional hæmorrhagic state, called by some *passive hæmorrhage:* the last case may be looked upon as purely *passive*, at least during the greatest part of the duration of her malady. Now by the use of the term *passive* I must not be thought to admit a distinction which some pathologists draw, and to grant that hæmorrhage may take place by the filtration of the blood through the coats of the capillaries without their rupture—such an hypothesis appears to me to be quite untenable; it is anatomically impossible for the blood corpuscles to pass through the coats of the capillaries unless they had pores which would be visible by the microscope. But this is the distinction that I would make: in *active* hæmorrhage the rupture of the vessels arises from the presence of an inordinate quantity of blood in them; in *passive* hæmorrhage the same rupture arises, not so much from the quantity of the blood as from its depraved quality, and the ill nourished and weakened condition of the coats of the vessels themselves, which give way on the slightest pressure.

Thus we see there are two distinct ways in which renal hæmaturia may occur; and it is very important that the practitioner should clearly determine the real cause of the hæmorrhage, as it is this diagnosis which must guide him in deciding what plan of treatment he will adopt.

I may here notice some other ways in which hæmaturia may be brought on:—Renal calculus is a very frequent cause of hæmorrhage; but in this case the hæmorrhage is dependent not on the *presence*, but on the *disturbance* and *movement* of the calculus: the calculus may exist for a long time, and yet no hæmorrhage occur; but if the calculus be loosened by exercise or any other cause, blood is passed immediately: this may often be noticed in gouty patients. Again, a state of general cachexia, such as occurs in scurvy, may bring on hæmaturia, or such as results from an aguish state, brought on by the malaria of marshy districts: nothing is more prejudicial to hæmatosis, or the healthy elaboration of the blood, than the influence of the paludal poison. Sometimes a great development of the oxalic diathesis will give rise to renal hæmorrhage; and Dr. Prout mentions that he met with several instances of this after our first visitation of cholera, when the oxalic diathesis prevailed extensively.

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* The necessity for great caution in the use of these remedies is shewn by the sequela of this girl's case, which terminated, some time after this lecture was given, in her death. The hæmorrhage resisting all the ordinary remedies, five drops of spirits of turpentine were given three times a day. In the course of two days this remedy was followed by strangury, and a great diminution in the quantity of the urine. This was followed by a low febrile state, with oppressed brain, in which the patient died. The kidneys were in a state of chronic nephritis.

The nature of the treatment should be determined in a great measure by that of the cause. If it is irritation, that irritation should be subdued; the irritating agent should be diverted into other channels by the stimulation of the other emunctories, and counter-irritants should be used; but care should be taken not to use such as might in their constitutional effects irritate the kidneys. If a general tendency to hæmorrhage is the cause, anti-hæmorrhagics should be administered,—lead, tannin, gallic acid, are those from which you will find the greatest benefit; but tannin or gallic acid is, I think, by far the best. The worse case I ever met with, which was not unlike the second case I have mentioned to you to-day, I treated with tannin, and the man got perfectly well, with a sound kidney. In addition to the tannin, you may with great advantage give a little port wine. Gallic acid is very similar to tannin, both in its effects and in the freedom with which it may be administered. It may be given suspended in a little mucilage, or made into a pill with confection or extract: it may be given in very large doses. I give as much as five grains two or three times a day, and even much more, frequently. The *only* disadvantage arising from it is that it constipates the bowels, but this is a very minor consideration: in fact, in some cases it is not altogether a disadvantage, for the less drain the patient has from him the better. Now we have more experience of gallic acid than we were aware; *Ruspini's styptic*, which has been so extensively and so advantageously used, has been ascertained by Dr. A. T. Thomson to be chiefly a solution of gallic acid in alcohol. In all cases of hæmorrhage, whether hæmoptysis, hæmatemesis, hæmaturia, or any other form dependent on hæmorrhagic tendency, I have used gallic acid with the greatest advantage, and I am therefore ,inclined to look upon it as the best styptic which we possess.

When the hæmorrhage results from a mechanical cause, such as the destruction of a renal calculus, the best single remedy is rest, to which may be added, free dilution, and a general treatment applicable to the peculiar diathesis of the patient.

Original Communications.

ON THE

MOVEMENTS AND RHYTHM OF RESPIRATION,

IN VESICULAR EMPHYSEMA AND BRONCHITIS.

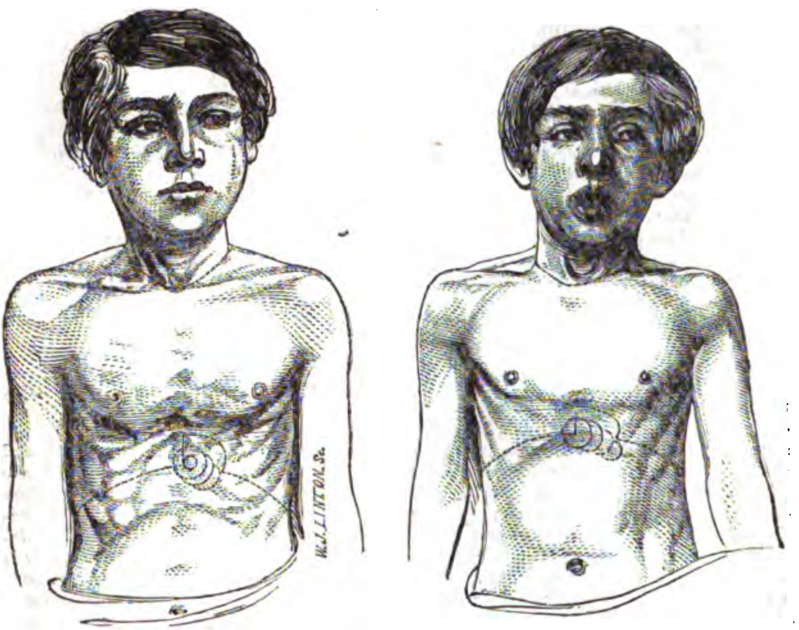
BY FRANCIS SIBSON, M.D. Lond.

[Continued from vol. xlii. page 710.]

1. *Subjects of the two former papers, and present one.* 2. *Reference to the author's paper on "the movements of respiration in disease."* 3. *Obstruction to respiration in emphysema.* 4. *Dr. Stokes' description of the respiratory movements in that disease.* 5. *Falling in of the lower part of the chest during inspiration; and* 6. *Cause of the remarkable sign in question.* 7. *In slight cases no falling in: the extent to which the chest recedes during inspiration a test of the severity, increase, or diminution of the disease.* 8. *Cases in which the lower part of the chest is narrowed instead of being flattened during inspiration.* 9. *In old age, the cartilages being stiff, no falling in of the costal walls.* 10. *Deepening and widening of intercostal spaces during inspiration. Dorsal curvature.* 11. *Attitude of the patient during the attacks of dyspnœa.* 12. *Inspiratory expansion of the inlets of respiration.* 13. *Expiration.* 14. *Rhythm of respiration. The expiration longer than the inspiration. The nature of the rhonchi, in relation to the lengthening of expiration; the expiration quick at first, then slow, and becoming gradually slower towards the end of the act.*

1. MY first paper on Vesicular Emphysema and Bronchitis, (GAZETTE, Sept. 8, 1848), contained an account of the size and situation of the internal organs in those diseases, shewing that the lungs and heart are increased in size, that the walls of the chest are remarkably developed, and that the diaphragm is permanently and considerably lowered, the abdominal viscera being displaced downwards.

The last paper (GAZETTE, Oct. 27)



Ordinary Respiration. *Deep Inspiration.*

Wm. Rawson, æt. 13, affected with bronchitis and emphysema.—The dotted lines indicate the outlines of the organs; the concentric lines, the position of the heart's impulse.

described the configuration of the chest, and the general aspect in cases of vesicular emphysema: the chest being full, rounded, and prominent, and characterized by certain differences in form, accordingly as the disease attacks persons in youth, manhood, and old age.

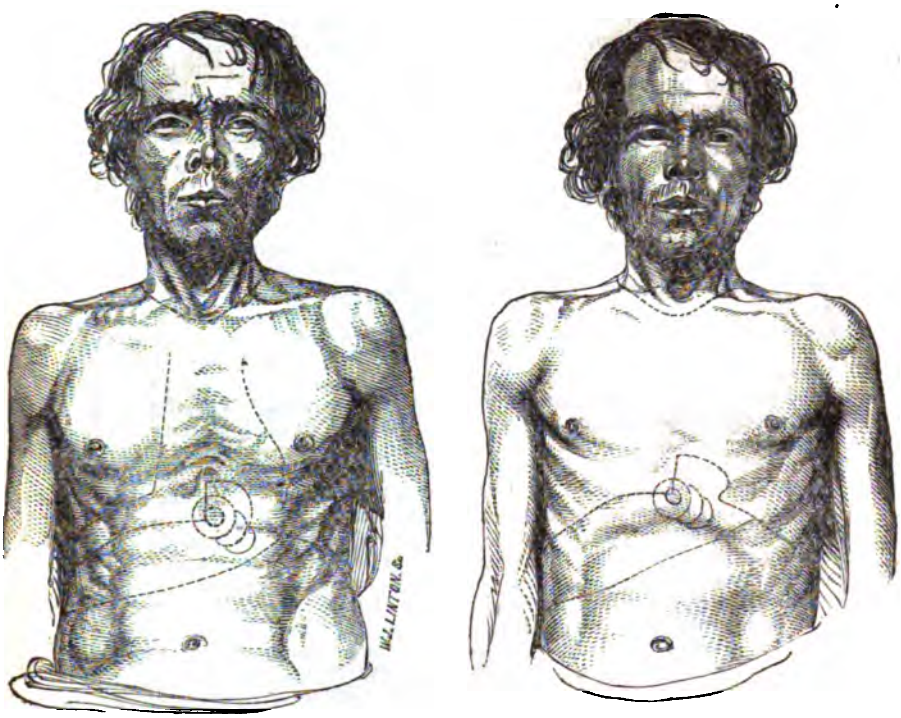
In this paper I intend to describe the movements and rhythm of respiration in vesicular emphysema and bronchitis.

2. In a paper on the movements of respiration in disease, published in the last volume of the Medico-Chirurgical Transactions, I have detailed my observations on the movements of respiration in emphysema. To ascertain those movements with minute accuracy, I employed a chest-measurer. For an account of the mode of using the chest-measurer, and of the details of the observations, I beg leave to refer to the paper in question.

3. The respiratory movements in emphysema are directly modified by the physical changes in the lung. The air-cells are enlarged—their walls being stretched and perforated—and the entrance and exit of air to and from them through the smaller bronchi is obstructed.

Owing to the permanent and excessive enlargement of the lungs, and the obstruction in the smaller bronchi, inspiration can only be performed with difficulty, and with laborious efforts; for, as Dr. Williams remarks, "breath is taken as it were on the top of breath." By no amount of exertion can the normal proportion of air be inspired: for instance, the extreme breathing capacity of Shaw was only 90 cubic inches, instead of about 200. Dr. Stokes, in the following passage, describes with admirable force and accuracy certain of the characteristic effects caused by emphysema on the respiratory movements.

"When the patients are stripped, and lying on the back, a remarkable character of respiration may be observed. We see the thorax powerfully elevated upwards, and the abdomen as powerfully protruded downwards; but there is this remarkable difference from forced respiration in the healthy state—



Ordinary Respiration. *Deep Inspiration.*

Wm. Shaw, æt. 30, affected with emphysema and bronchitis.

that the abdominal protrusion does not begin so high; and while the umbilical and hypogastric regions move upwards, the epigastrium, and upper portions of both hypochondria, remain comparatively motionless; while the corresponding ribs are drawn in. This is explicable by the new position of the diaphragm; it has descended, and carried the abdominal viscera before it; and its contraction takes place at a point lower in proportion to its displacement.' (On the Diseases of the Chest, p. 188.)

5. During inspiration, some very remarkable phenomena take place; while the abdomen protrudes, and the upper part of the chest advances upwards, the lower part of the chest, especially the lower end of the sternum, actually falls backwards. It is singular to see the respiratory movements, in part, exactly reversed; to observe the lower end of the sternum, and the xyphoid cartilage, and the fourth, fifth, and sixth costal cartilages, collapse, instead of protruding during each inspiration. This is well shown in the case of the boy Rawson, affected with bronchitis and emphysema, of whom the admirable engravings of Mr. Linton, taken from daguerreotype, and from the original, illustrate this paper. The first daguerreotype was taken when he was breathing tranquilly; the second, during a deep inspiration.

In Rawson, the lower end of the sternum, and the adjoining sixth costal cartilages, instead of advancing about 6·100ths of an inch, fell backwards during inspiration to the same amount; and the fourth cartilage, instead of advancing through the whole inspiration, receded from 1 to 2·100ths of an inch, and then advanced.

This collapse, during inspiration, of the lower part of the chest, may be observed in the great majority of severe cases of bronchitis and emphysema, where the patients are below the age of 40 or 45. Of 38 cases of bronchitis and emphysema, the respiratory movements of which are tabulated in my paper on the Movements of Respiration in Disease, the lower end of the sternum fell back during inspiration, in eight or nine out of the 12 cases of children affected with bronchitis or hooping-cough; in nine out of 14 cases of males below the age of 50; and in six out of eight cases of females. The four remaining cases were old men.

6. The cause of the remarkable sign in question is very apparent. As the air can only enter the air-cells through the obstructed bronchi with difficulty, the lungs are lengthened from below, by the powerful descent of the diaphragm, and amplified above by the expansion of the upper part of the chest more rapidly than it is possible for air to rush in to supply the enlarged and lengthened portions of the lungs. The consequence is, that the lungs collapse at the lower part of the chest, and the walls of the chest fall in, owing to the pressure of the atmosphere over the collapsed portion of lung. It is not only in emphysema and bronchitis that the phenomenon in question is observed. If we pass a tape round the chest, and voluntarily close the glottis, and attempt to inspire, the diaphragm draws downwards and lengthens the yielding spongy lung, and the abdomen protrudes, notwithstanding that no air is admitted into the lung: the consequence is, that the lungs being lengthened, collapse, and the costal walls fall inwards. The matter is made plainer by this illustration. "If we lengthen a closed india-rubber bottle containing air, the sides of it collapse; if we compress and shorten it, they swell out. So with the lungs; if they be lengthened when the air can neither escape from nor enter them, their sides will collapse; if they be shortened, their sides will swell out."

The following extract from a paper by Dr. John Reid, on Respiration, puts this interesting subject in a very clear point of view. "The passage of the air into and from the lung has an important effect upon the muscular respiratory movements. When a lung, or a considerable portion of it, is prevented from expanding by disease or any other cause, the pressure of the air on the inner surface of that portion of the chest covering the unexpansible lung is not now exercised during its dilatation,—in other words, this portion of the chest, in expanding, must do so in opposition to the whole of the atmospheric pressure on its outer surface, amounting to 15lbs. on the square inch. This pressure appears to be too great for the muscles of inspiration acting upon that part of the chest to overcome, for the ribs are there motionless, or nearly so; and, if the lung is in a state of collapse, the walls of the thorax covering it fall in."

7. In slighter cases of bronchitis or emphysema, when the obstruction to inspiration is inconsiderable, the walls of the chest do not fall in. This was observed in three cases given in the tables referred to above, in which the disease was only slight. In other cases, where the disease was somewhat more severe, the lower end of the sternum only fell in at the beginning of inspiration, and then advanced. In more severe cases, the lower end of the sternum fell in during the whole of the inspiration. As the severity of the case increased, in addition the cartilages to each side of the sternum fell in. The boy Rawson is an interesting illustration of this. When he was first observed, emphysema was conjoined with acute bronchitis, and the lower end of the sternum, and the fourth and fifth costal cartilages, receded. A month later, the bronchitis was less severe, and the fourth costal cartilage, instead of receding, advanced during inspiration. In another patient, who got gradually worse, and at length died, as the case increased in severity, the portion of the lower part of the chest which fell in during inspiration increased in extent.

We are thus, in the increase or diminution of the amount and extent to which the lower part of the chest falls in during inspiration in a case of bronchitis or emphysema, afforded a test of the progressive increase or diminution of the disease.

8. Although the lower end of the sternum falls in during inspiration in the greater number of cases of emphysema and bronchitis, it does not do so in all cases. William Shaw, the engravings from whose daguerreotypes illustrate this paper, is a case in point. In Shaw, the lower end of the sternum, instead of receding during inspiration, protruded about 4-100ths of an inch. This protrusion was owing to a remarkable narrowing during in-

spiration of the lower part of the chest, the 6th and 8th ribs falling in on each side. The inspiratory falling in of those ribs was evidently due to the chest being there unusually narrow and boat-shaped, and the sternum prominent, apparently from malformation acquired in early life. Such malformation frequently occurs in ricketty children, owing to the yielding inwards, during inspiration, of the ribs and costal cartilages at their junction. In these children the sternum is unusually prominent, while the chest is narrow: they are, in fact, chicken-breasted. In four out of twelve of the children affected with bronchitis and hooping-cough, the lower part of the chest, instead of being flattened, was narrowed during inspiration.

9. When persons above the age of 45 or 50 are attacked with emphysema or bronchitis, the cartilages being firm and partially ossified, the walls of the chest do not fall in anywhere during inspiration.

10. The daguerreotypes of Rawson and Shaw shew very clearly that the lower intercostal spaces become very hollow and deep during inspiration in cases of emphysema. This deepening of the intercostal spaces, which may be observed to a certain extent in all healthy persons, not loaded with fat, during a deep inspiration, forms a marked and characteristic feature in cases of emphysema, and is due to atmospheric pressure.

One of the features characteristic of emphysema is the considerable and rounded dorsal curvature, the neck and head being forward and stooping. During inspiration, the dorsal curvature is increased, and the neck and head are further lowered and brought forward. This lowering of the head during inspiration is usually considerable, amounting in some cases to 1-20th of an inch, and is due to the inspiratory deepening of the dorsal curvature just alluded to, and to the contraction of the sterno-mastoid, which, while it acts with increased purchase, from the mastoid process on the sternum, when the head is well forward, at the same time acts from the sternum on the mastoid processes to draw the head still farther downwards and forwards.

11. The attitude of the patient during the attacks of dyspnœa is such as to favour the action of certain supplementary inspiratory muscles. If standing, the patient, bending forward, leans his hands on the table or on his own knees; if sitting, he leans forward, supporting his elbows on the arms of the chair, or his elbows or hands on the knees. The head being well forward, he thus gives purchase for the action of the sterno-mastoid, and, the scapulæ being raised and fixed, he gives solid bearing for that of the pectoral muscles. If the patient be in bed, he either sits forward, leaning his hands on the bed, or his elbows on the knees; or, in some cases, he kneels and leans on his elbows, maintaining a horizontal back; the head at the same time is lowered, resting on the pillow. The sterno-mastoid and scaleni have now a fixed bearing, and, their origins being thrown forwards, those muscles act with every advantage. The pectoral muscles act from the fixed scapulæ, and, the back being horizontal, the costal walls are slung by the serrati from the scapulæ, the respiratory motion of those walls being backwards and forwards as it is in the lower animals, instead of being upwards and downwards as it is in man: in fact, the patient puts himself spontaneously into the attitude in which the mechanical movements of respiration are most easily performed.

12. The respiratory muscles which act on the inlets of respiration partake of the exaggerated action which characterises those muscles which act to expand the chest. The nostrils, which are always more or less dilated, are, during inspiration, expanded to the full. The whole face is in action: the eyebrows are more than ever corrugated and raised during inspiration; the features are furrowed, and sometimes, when respiration is oral, the mouth is opened or widened, the jaw is lowered, the soft palate is stretched and rendered tense, and the base of the tongue is lowered and brought forward; the inlets and channels of respiration are throughout widened; at the same time—that is, during inspiration—the larynx descends, being drawn downwards chiefly by the action of the diaphragm, which, causing the descent of the trachea at its bifurcation, necessarily also causes the descent of the larynx.

13. While inspiration is very difficult in emphysema and bronchitis,

owing to the obstruction in the smaller bronchi, and to the lung being enlarged almost to the full, expiration is still more difficult. The muscular actions are not so much exaggerated in expiration as in inspiration, that act not being felt to be so immediately essential to life; but, as will be more particularly seen in considering the rhythm of respiration, expiration is much longer than inspiration. This difficulty of expiration is, in fact, one of the fundamental causes of the enlargement of the air-cells. The action of the expiratory muscles, especially during dyspnœa, is much exaggerated, the abdominal muscles, the latissimus dorsi, and the serratus magnus, being especially active; the action of the inspiratory muscles are, however, unquestionably more exaggerated than that of the expiratory.

14. *The rhythm of respiration*, or the relative duration of expiration and inspiration, is remarkably disturbed in emphysema.

The expiration is considerably longer than the inspiration, instead of being equal to, or but little longer than it. The greater the obstruction in the smaller bronchi in both emphysema and bronchitis, the more prolonged and difficult is the inspiration. If a case affected with emphysema or bronchitis, or both conjointly, improve, the expiration becomes less and less prolonged, until, as the disease becomes trivial, it is scarcely longer than the inspiration. We have thus, in the greater or less increase in the relative length of the expiration, a test not only of the severity of the disease, but of its progress; for if it improves, the expiration shortens; if it becomes worse, it lengthens.

The prolongation of the expiration is in strict relation with the cause and the presence of the existing rhonchi. This is especially manifest in bronchitis, in which disease the rhonchi are developed in proportion to the increased lengthening of the expiration.

In emphysema and bronchitis, not only is expiration lengthened, but it is lengthened in a peculiar manner. The expiration is not equally slow throughout, but it is at first quick and then slow, and it becomes gradually slower towards the end. This quickness of the expiration at first, and increasing slowness towards the end, is owing to the condition of the bronchi. All the bronchial tubes are at their largest at the end of inspiration and the beginning of expiration, and then it is that expiration is easy and quick, as it is then also that the larger and unobstructed bronchi become lessened by the expiratory act. As the lesser bronchi become smaller and smaller during the progress of expiration, the difficulty increases, and the expiration becomes slower and slower. The increasing slowness of the expiration towards the end is in strict relation to the nature of the rhonchi, they being often absent or very coarse and grave at the beginning of expiration, then sharp, and afterwards more sharp and cooing towards the end of the act. In such cases, the inspiratory rhonchus is the reverse of the expiratory, being sharp at first, becoming gradually grave and coarse, and towards the end of the inspiration being often altogether absent.

There are some interesting peculiarities and differences in the motion and rhythm of the abdomen, and of the upper part of the thorax, the expiratory diminution of the abdomen being often sudden and almost complete during the beginning of expiration; afterwards the abdominal walls either stand still or contract very slowly. The upper costal walls often stand still just at the beginning of expiration, and then recede; but the costal parietes as well as the abdominal diminish more slowly just towards the end of expiration. For further details on this subject, I beg to refer to the paper quoted above on the movements of respiration in disease.

15, Lower Brook Street, Grosvenor Square,
Jan. 1849.

ROYAL COLLEGE OF SURGEONS.

THE following gentlemen were admitted members of the College on the 12th inst.:—W. S. Love—J. Bull—W. Bell—J. A. Bolton—W. E. Jefferys—W. Briscoe—A. G. H. Buckby—T. Wade.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 11th January, 1849:—James Mitchell, Nottingham — Henry Edward Turnour—Charles Newth Foote, Sheffield—George Tootal Nicholson, Sheffield.

CASE OF

SOFTENING OF THE BRAIN.

WITH REMARKS.

(Read before the Reading Pathological Society.)

By Edward Wells, M.D.
Physician to the Royal Berks Hospital, and to the Reading Dispensary.

As the following case appears to present some points of interest, I have ventured to bring it under the notice of this Society. The diseases of the brain, owing to the combination of mind and matter, offer so many difficulties in the way of an accurate diagnosis, as to require, more than any other class of maladies, a rigid comparison of symptoms with the morbid changes upon which the symptoms depend. It is only from a very large collection of facts that we can hope to form a just opinion of the cause of cerebral affection, and without a knowledge of the cause of disease, our diagnosis will probably be wrong, our treatment must at the best be uncertain:—

In the summer of 1845, Mr. W. S. suffered from a very protracted attack of typhoid fever of the nervous character. During its course there was great delirium, alternating with periods of coma, in which there was much tympanitis. He appeared several times so near his end, that his friends requested nothing more might be done. I mention these facts, as it is not unlikely that the foundations of the disease, which had lately proved fatal, were laid at that time.

His convalescence from this fever, as might have been expected, was very slow; and, although his body appeared ultimately to regain its former powers, his mind seemed never thoroughly to recover its healthy tone. He avoided his old acquaintances, became annoyed with trifles, harassed with his business, and required constant amusement to drive away care, but remained sober in his habits.

In the spring of 1846, he was laid up for a long time with severe pain in the right lumbar region, shooting from before backwards. He could not move the lower half of the trunk without such excruciating agony as to make him cry out. His medical attendant anticipated a lumbar abscess. This attack was largely complicated with hysteria, globus hystericus, and involuntary and convulsive sobbing. After trying other remedies with no avail, the pain gradually and entirely disappeared under the use of the compound mistura ferri.

From this time until the last 25th of June I saw nothing of him professionally. On that day I was summoned to visit him in conjunction with his ordinary medical attendant. His age 30.

I found that having been much exposed to wet while fishing, he had been attacked ten days previously with severe pains in the head, principally over the right temple, and in the face. It was supposed to be neuralgia, and treated accordingly. Ever since that time he had been laid up with cephalalgia, which at present he describes as running in a line from the root of the nose to the occiput. He has occasional twitches on each side of the face. There is almost total loss of sleep, and some wandering when he dozes. No thirst, but total loss of appetite. Tongue very foul. Pulse 80, weak; skin warm and perspiring; bowels costive; urine sedimentous. No pain in the limbs. The spirits are very low indeed, with frequent sighing, and occasional sobbing; but the intelligence is at present clear. He is very sensible to noise, and light increases the headache. Had some sickness to-day for the first time. Has no tremulousness of the hands or tongue. The right pupil is much more dilated than the left, and acts very sluggishly under light. There is some ptosis of the right eyelid. During the last ten days, vision has occasionally been affected, producing a multiplicity of objects. The treatment has consisted of leeches, purgatives, and sedatives, but without any relief.

The foul state of the tongue, the costive condition of the bowels, and the pain in the head, appeared to indicate purging as the best chance of affording relief. He was accordingly ordered—Magnesia Sulphatis, ℥iv.; Infusi Rosæ Co. ℥iss. 4tis horis; Emplastr. Cantharidis nuchæ. Lotio frigida capiti: the hair having already been removed.

26th.—The bowels have been freely acted on; the motions are liquid and bilious. The tongue is rather cleaner, and the urine less turbid; but in other respects he is no better. Ordered—

Calomel two grains every four hours. Twenty drops of Hoffman in effervescing draughts of the Citrate of Ammonia every alternate four hours.

27th.—He became much worse yesterday evening, talking incoherently, and trying to get out of bed. Passed a motion unconsciously. Had picking at the bed-clothes. At five o'clock this morning he became quiet, and has been dozing ever since, occasionally opening his eyes, and making some incoherent remark, occasionally snoring. At present (1 o'clock) on being spoken to he answers incoherently: the right pupil is still dilated much more than the left, and both pupils act very sluggishly. Has passed no urine for the last twelve hours. Does not protrude the tongue on being told to do so. Pulse 80, weak. Has only taken one draught and one pill; it having been impossible to administer more. He was ordered mercurial inunction to both arm-pits and groins, to produce salivation as quickly as possible.

27th.—Evening: continues in the same state of stupor. Catheter passed, and one and a half pints of urine drawn off, thick with the lithates. Ordered to repeat the mercurial inunction, and to take a calomel pill if possible every three hours.

28th.—Morning: the stupor is more profound; takes no notice when spoken to; has spoken once or twice during the night, but quite unconsciously; pupils dilated, especially the right; both pupils nearly insensible to light; pulse 84, weak; has had no convulsions; has had some hiccup; occasional snoring and puffing of the cheeks; is not yet under the influence of mercury; has taken four calomel pills. Ordered—Empl. Cantharidis to the vertex, to be dressed with mercurial ointment. To continue the inunction and the calomel pills.

Evening.—Has remained in the same state during the day, lying in a semi-comatose state; had no convulsions; has swallowed some arrow-root from time to time; pulse is stronger; the pupils are not nearly so dilated, but they are insensible to light. The gums are beginning to be affected with mercury.

He continued in the same state until one o'clock A.M. of the 29th, when he quietly sank.

Post-mortem the same evening:—

The sinuses of the brain were found to be engorged. The membranes of the convex surface of the brain, particularly along the deep fissure, were very much thickened and congested, but free from any recent deposit of lymph. They were very adherent to the cranium, but not adherent to the cerebral convolutions, from which they were easily separated. The substance of the brain in its periphery was quite healthy, but the fornix and septum lucidum (longitudinal commissure) were completely broken down by *white softening*, and there was superficial softening of the left corpus striatum and left optic thalamus. The softened portions were not surrounded by any increased redness. The contents of the right ventricle were healthy. There was very little fluid in the ventricles, not more than natural. The membranes at the base of the brain were quite healthy.

The points of interest in the foregoing case appear to arise from the following questions:—

1st.—What connexion was there between the nervous fever of 1845, and the morbid changes which produced a fatal result in 1848? From the former illness the patient's manner had been altered, and his friends considered he was never the same man he had been before. In the thickening of the membranes there was nothing recent. The adhesions which bound the dura mater to the cranium were evidently of long standing. The redness of the membranes themselves was that of congestion, and not of inflammatory stain. There was no recent exudation of lymph or serum. The softening of the central portions of the brain bore no trace of an inflammatory origin; it was not surrounded by a red ring, nor had it given rise to any turbid serum in the ventricles. It was the *white softening* which, according to Laennec, does not originate in inflammatory action, but depends on an infiltration of the cerebral substance, with destruction of its cohesion by serous fluid. According to the same author, the inflammatory softening of the brain is reddish or yellow, and depends upon a deposit of pus in the cerebral substance. Having witnessed the intense cerebral disturbance which occurred in the fever of 1845, I am inclined to think that in this case at any rate the seeds of the disease were sown at that time, though I am unable to follow their development into the fatal disorder I have described, from ignorance of its true pathology.

2ndly.—What is the positive nature of softening of the brain, or ramollissement, more especially of *the white softening?* In the foregoing case it has been my task to relate a fact, without building up a theory; but I may mention that Lallemand regards it as the result of an acute, sub-acute, or chronic inflammatory irritation of the brain, in which opinion he has been supported by Durand-Fardel, the author of a recent learned monograph on this subject. Rostan considers it analogous to gangrena senilis, but it must be remembered that Rostan's observations were collected in the Salpetrière, upon the brains of aged persons alone, the patients in that hospital being all old. Recamier looks upon it as a morbid change *sui generis.* Carswell considers that all softening of the brain must arise from one of two causes—the 1st being inflammation, and the 2nd obliteration of the arteries of that organ. Abercrombie regards it as similar to gangrene of other structures, and therefore arising either from an inflammatory action, or from an obstructed circulation. This last author appears to attribute the disease known as hydrocephalus acutus, in the majority of cases, to an inflammatory softening of the central portions of the brain. But the results of my own experience in the Children's Hospital at Paris, where a great number of these cases are examined, would lead me to infer that by far the greater number of cases of acute hydrocephalus depend upon tubercular meningitis. Lastly, the scrofulous diathesis is supposed by some to set its own peculiar mark on this disease, and to produce that disorganization of the texture of the brain which we see it produce in the other tissues of the body.

M. Lallemand, in following out his idea of the inflammatory origin of *all* softening of the brain, has attributed the *white softening* to an infiltration of pus into the nervous pulp; and M. Gluge asserts that he has been enabled to detect, by the aid of the microscope, the presence of pus-globules in some instances of white softening: but, in opposition to this opinion, M. Durand-Fardel states that globules exactly resembling pus-globules are equally discoverable by the microscope in specimens of perfectly healthy brain.

I cannot say that the case now related gives us any clue to the intrinsic nature of this alteration. If, according to Lallemand, it was the result of inflammatory action, that inflammation was of the lowest possible type, the knowledge of whose existence could have been no guide to the treatment. The pulse was 80, weak, the skin open, perspiring freely, and the nervous depression extreme. This state of things offered no hope of effecting good by depletion. On the other hand, we can hardly consider, with M. Rostan, that in this instance the disease resembled gangrena senilis, as the patient's age was between 30 and 35. In the cases reported by Dr. Abercrombie to shew the inflammatory nature of the disease, the portions of the brain contiguous to the softening bore evident traces of inflammation, as they were much injected with blood; but in the case just related, the parts of the brain bordering upon the softened portion were quite healthy. Neither can we hold, with Laennec, that the softening was due to an infiltration of serum; for in this case we should expect to find the ventricles loaded with fluid previously to the infiltration of their walls; and, as I have already stated, the lateral ventricles contained scarcely any serum.

3rdly. What was the connection of the symptoms observed during life with the lesions found after death? As we have already seen, the chief alteration of structure consisted in the softening of the longitudinal commissure. It is remarked by Solly, in his work on the Brain, that "lesions of the commissures alone never produce paralysis either of motion or sensation." This remark would seem to be carried out by the case before us, in which, with the exception of ptosis, there was no paralytic affection; and as there was no loss of motion, so neither was there any exaggeration of it, for there were no convulsions during the illness. The chief symptoms were severe cephalalgia for eleven days, followed by a short stage of delirium not exceeding a few hours, and this succeeded by a state of stupor, in which the patient sank.

Dr. Abercrombie, in his work on Diseases of the Brain, gives two cases of softening of the fornix, in which, during life, very similar symptoms to those I have related were observed, viz. violent headache, followed by coma, and without convulsions.

4thly. What occasioned the dilated condition of the right pupil, while the left remained of the natural size? The course which each optic nerve takes, from its origin in the expansion of the retina to its insertion into the brain, is still, I believe, the subject of some discussion. Cases in pathology have been quoted to show that there is only a very partial decussation of the fibres at the commissure: others again, have been adduced to prove that the decussation is complete. Our case would appear to prove the latter, for while there was great dilatation of the *right* pupil, and a natural size of the left, it was the *left* corpus geniculatum which was involved in the cerebral softening.

Lastly. What produced the ptosis of the right eyelid? The course of the third pair appeared free from disease, but there can be no doubt that this symptom depended upon the affection of the brain.

THE CLIMATE OF MALTA,

CONSIDERED WITH REFERENCE TO THE DISEASES OF THE NATIVES, ENGLISH RESIDENTS, AND INVALIDS.

By T. Spencer Wells, F.R.C.S.
Surgeon R.N., late Assistant-Surgeon in Malta Hospital.

[Continued from p. 20.]

Part I.—*Continued.*

Atmospheric pressure.

Sir Howard Elphinstone observed the barometer at 8 a.m., 4 p.m., and 10 p.m. daily, from May 1832 to Nov. 1834. A daily observation is also made at the Military Hospital, and latterly a correct register has been kept at the University by members of the Medical Society, and the Professors of Natural Philosophy, at an elevation of 164 feet above the sea level. I have compared these results with those obtained by Sir Howard, and find they approach so closely, that I have given his only, and an average of the mean height and range for each month of the years 1842 to 1846 inclusive.

	1842 to 1846.
Mean annual height of barometer, 29·89 Elphinstone	29·84

Mean height for each season.

Winter.	Spring.	Summer.	Autumn.
29·94	29·79	29·95	29·91

Mean height for each month in 1832-34 and 1842-46.

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
29·97	29·96	29·70	29·82	29·87	29·95	29·99	29·93	29·93	29·92	29·88	29·89
29·79	29·73	29·77	29·75	29·79	29·88	29·90	29·89	29·91	29·91	29·90	29·92

The annual range, according to Sir Howard's observation, was 1·27; but the extreme range from 1842 to 1846 was only 1·13. His instrument, however, was a register one, and I have therefore given his ranges only for each month and season. They are as follows:—

Winter.	Spring.	Summer.	Autumn.
1·08	0·97	0·46	0·79

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0·81	0·93	0·92	0·55	0·54	0·40	0·32	0·25	0·44	0·47	0·76	0·65

I have not thought it necessary to enter into a particular comparison in the other places, but would remark that the varieties of atmospheric pressure are much less in Malta than in Great Britain, France, or Italy, and in this respect the climate yields in equality only to that of Madeira. Those who are desirous of more minute information will do well to consult the tables appended to Sir James Clark's work on the Sanative Influence of Climate.

The *humidity* of the climate of Malta will be shewn by statements of the quantity of rain which falls in the year, the number of rainy days, and the degree of tension of atmospheric vapour.

The following tables will shew the quantity of rain which fell in each month and season, during three years, from observations made at the Royal Engineer office at Valletta. The pluviometer is on the roof of the building, 168 feet above the sea level, in a situation perfectly open and uninfluenced by neighbouring buildings. It is supposed that a larger quantity of rain falls upon the high land, to the west of the island, than at Valletta, but no comparative observations have as yet been made.

	1844.	1845.	1846.
January. .	5 3/40	4 7/20	3 9/80
February. .	1 3/20	1 45/80	17/20
March. . .	3 10/20	5/20	1 19/80
April . .	2 16/20	4/20	26/80
May. . .	13/20	13/20	nil
June . .	nil	nil	nil
July. . .	nil	nil	nil
August. . .	2/20	nil	nil
September.	nil	3/20	1 17/20
October. .	1 27/40	31/40	4 5/40
November.	1 17/40	37/40	10 1/20
December.	3 5/40	5/20	2 11/40
	19½ in.	9 9/80	23 28/40

The quantity of rain is measured at 9 A.M. daily, and the pluviometer then emptied.

Thus it appears, that on an average of 3 years, the annual quantity of rain fallen was 17·40 inches. In London the average is 24·80; in the south of England and Ireland it varies in different spots from 28 to 44; at Paris it is 18·66; at Nice, 26·81; and at Madeira, 29·23. It will be seen, by a glance at the table, that November, December, and January, are the principal rainy months, and that from May to September inclusive, rain is almost unknown. The following table shews the relative quantity of rain which falls in the different seasons in Malta, London, and Madeira.

	Winter.	Spring.	Summer.	Autumn.
Malta . .	6·99	1·54	0·66	8·21
London . .	5·85	4·80	6·67	7·43
Madeira . .	11·40	5·77	1·45	10·61

The average quantity in each month was as follows in the three years :—

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
4·17	1·16	1·65	1·10	0·43	0·00	0	0·03	0·63	2·17	4·13	1·90

The mean annual number of days on which rain falls has been 66, for the 5 years 1842 to 1846 inclusive.

In 1842 there were	69
— 1843 „	64
— 1844 „	63
— 1845 „	61
— 1846 „	73

In London, the average is 178. In the S. and SW. of England, about 150; at Rome, 117; Naples, 99; Madeira, 70.

The mean for the seasons is as follows :—

	Winter.	Spring.	Summer.	Autumn.
Malta . .	28	10	4	24
London . .	48	43	44	43
Madeira . .	23	18	6	22

The mean for each month is also shewn :—

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Malta . . .	16	8	4	4	4	2	—	2	2	6	9	9
London . . .	14	16	13	14	16	12	16	16	12	16	15	18
Madeira . . .	13	5	6	9	3	2	1	1	4	6	11	5

Every day on which the most trifling shower occurred, is considered in the Malta tables as a rainy day.

The amount of moisture suspended in the atmosphere is a most important consideration in the study of the character of a climate, independently of the fall of rain, and one too much overlooked, particularly in warm countries.

At low temperatures, comparatively little aqueous vapour can exist in the atmosphere; but at higher temperatures, the quantity very rapidly increases, and becomes doubled in the same space, at every increase of 16° 6· Fahrenheit. The air, until completely saturated with moisture, is capable of taking up an additional quantity, so that evaporation from the surface of the body, and consequent lowering of its temperature, are not only affected by the warmth and motion of the atmosphere, but also by its different degrees of capacity for absorbing moisture. Cold air is the chief chilling agent to the surface of the body in northern climates; air in motion, and evaporation in southern.

No regular series of observations with dry and wet bulb thermometers has been made to my knowledge in Malta which could afford results to compare with those deduced from observations in other places. My own occupations have prevented me from making more than occasional experiments; but these have shewn me that in the winter months, when the N. and NW. winds blow, evaporation proceeds rapidly, the difference between the readings of the two thermometers being from 9° to 12°, and occasionally amounting to 20°. In the same months, with winds from SW. to NE., the difference varies between 4° and 9° only. In the summer months, with N. and NW. winds, the difference varies between 14° and 17°, occasionally amounting to 25°. When the wind is between S. and NW., or between E. and N., the difference is from 12° to 15°; but when the SE. blows, or from any point between S. and E., the difference is very trifling, seldom amounting to 4°. As the mean temperature of the months in which these winds are most prevalent is about 81°, it will be easily understood how large a quantity of aqueous vapour must exist in the atmosphere when evaporation even at that temperature goes on so slowly as scarcely to lower the wet bulb of a thermometer. It must be remembered, also, that the atmosphere of Malta is almost completely marine—a low small island, being completely exposed to the winds which are almost continually blowing over the surrounding sea. Dew often forms at sea in the Mediterranean: this is not the case in the Atlantic, except near shore; so that the atmosphere over the former is more highly charged with moisture than that over the latter.

Winds.—Having shewn how important it is to study the hygrometric conditions of the atmosphere, in relation with the more or less rapid chilling of the surface of the body in southern latitudes, it is scarcely necessary to add, that the effects will vary with the rapidity of the motion of the air. Air in motion is cooler to the feelings than air in a state of rest; and Sir J. Leslie says, that the quantity of heat, air at rest removes from a warm body is doubled by giving it a velocity of eight miles an hour. At the rate of 16 and 24 miles an hour it abstracts respectively 3 and 4 times as much caloric as when at rest. Now, in warm climates, the amount of caloric generated in the human body is so far equal to the amount removed by the air, when nearly in a state of rest, that very little clothing is required or can be supported,—so that when a person becomes exposed to a fresh breeze, although the thermometer may remain unaltered, the temperature of the surface of the body may be very rapidly lowered, especially if the hygrometric condition of the atmosphere at the time is such as favours rapid evaporation. In the second part of this paper, in the chapters on pulmonary and rheumatic diseases, this part of the subject will be more fully treated in its relation with the health of the inhabitants of Malta.

There are no such elevations in Malta as protect the inhabitants more than very slightly from any winds, so that they are equally exposed in most situations to the cool and dry, and to the warm and moist. The days on which the greatest heat or cold is shewn by the thermometer, are not always those on which either extreme is most sensibly felt by residents, the feelings being far more sensibly affected by a change of wind than by the change indicated by a rise or fall of the thermometer. With a N. or NW. wind, the air is always cool, even in summer: yet, within an hour or two, when a change takes place to S. or SE., although the thermometer may not be sensibly affected, great heat, languor, and oppression are complained of. This is easily explained by what has been said in the preceding paragraphs, especially when one knows that at the temperature of 83°, for example, the capacity of the air for moisture may be so great that a difference of 25° between the readings of the dry and wet thermometers, occasionally shows the rapidity of evaporation which is going on, and that in a few hours, the air, under a change of wind, may be so completely saturated, that the readings of the two bulbs are identical, the temperature of the air remaining the same. This I have often observed in Malta. The effect this must have upon the animal body will be still more apparent when it is added that the weight of vapour in a cubic foot of air in the one case is nearly 12 grains; in the other, but little more than 3;—that in one case the air is completely saturated with moisture; in the other, 8 grains and a half of water are required for the saturation of each cubic foot;—that the degree of humidity of the atmosphere, in the case of complete saturation considered as 1·000, in the other case is only 0·289;—and that a cubic foot of air, which in one case, according to the height of the barometer, will vary in weight from 485 to 510 grains, in the other will vary from 490 to 515.

On an average of 5 years, northerly winds prevailed on 149 days, westerly on 58, southerly 68, and easterly 90 in each year. A calm of 24 hours' duration is extremely rare—a morning or evening breeze almost constantly setting in. A glance at the map of the Mediterranean will show that no wind can reach the Maltese islands without passing over at least 60 miles of sea water: still most sensible differences are apparent, according to the direction in which the wind arrives. Thus a northerly wind, from passing over the island of Sicily, is clearly colder in winter and warmer in summer, than a NW., which has to pass over a much larger extent of sea water. The SW., although it must pass over upwards of 200 miles from the nearest part of the coast of Africa, the Libyan deserts, is still a hot dry wind in summer, often carrying and depositing considerable quantities of fine sand. The S. wind, passing over a much larger extent of sea, is cooler and moister than the SW. The SE., or sirocco, requires especial notice.

In summer and autumn, the effects of the sirocco are strongly marked—not so in winter, unless it continue to blow during several days. At its commencement, long whitish clouds settle along and parallel to the horizon: the atmosphere becomes hazy, and gradually more dense and foglike. The thermometer is generally but little affected, although, if the wind have been previously northerly, a rise of 4 or 5 degrees often takes place. The barometer always shews increased atmospheric pressure, and the slight difference between the readings of the dry and wet bulb thermometers shews that the air is almost or completely saturated with moisture. The effects upon organic and inorganic bodies, and upon animal and vegetable life, are very peculiar. The streets, roads, roofs of houses, decks of ships, &c. at night are as wet from the deposition of moisture from the air, as after a smart shower. Oil paint will not dry; iron cannot be hardened into well-tempered steel; if wine be bottled, fruit preserved, or meat salted, during a continuance of this wind, they spoil; stringed musical instruments cannot be kept in tune; ladies' hair falls out of curl; dried woods warp and crack; the processes of fermentation and putrefaction advance with such rapidity, that bakers only put half the usual quantity of leaven or yeast to their flour, and butchers are very unwilling to kill cattle. Plants droop, and present a faded, withered appearance, the sides of trees presented to this wind offering a marked contrast with the foliage on the opposite aspect; and whole fields of grain may be sometimes seen drooping as if after a heavy shower. Animals are very susceptible of the influence of the sirocco; the dog is dull and dozy; the horse is sluggish, and sweats profusely. Upon the human being the effects are the same in kind, though greatly varying in degree in different individuals, persons generally becoming more and more susceptible as their residence in the island is protracted. Extreme bodily lassitude and mental depression,—indisposition for any exertion or study,—more or less oppression in breathing, and great tendency to perspire, the perspiration not evaporating, but remaining clammy on the skin,—these, with restlessness and irritability, are the general effects, in a greater or less degree, upon the healthy. Upon the sick they vary with the nature of the disease. Some few inflammatory diseases are clearly benefited, but in all diseases of debility, in weak convalescents, in cases of atonic or nervous dyspepsia, and in chronic rheumatism, the depressing effects are most injuriously manifested. Wounds do not heal readily; ulcers previously cicatrizing are very apt to reopen and become indolent. Slight ophthalmia or bronchitis are very apt to become aggravated, and run into an obstinate form of chronic inflammation. Fevers assume a low character, and vaccination is apt to fail, or if it succeed, the progress of the pustule is retarded. This fact has been both asserted and denied, but my own observation has convinced me of its truth.

Before the conclusion of this chapter, some general remarks upon the climate of Malta, as a place of residence for invalids from more northern latitudes, may be looked for; but as in the second part this subject will be treated with especial reference to a number of diseases, it is only necessary to mention here, that from the end of October to the middle or end of May, the invalid may generally enjoy weather which he would only meet with in England in a clear, dry, and rather warm spring. He will occasionally find more wind and rain than he is led to expect in books, but not more than one or two days in each month, on an average, which will prevent a delicate person from taking open air exercise.—The houses are built with a view of obtaining coolness in summer rather than warmth in winter, but are rapidly becoming furnished with most English comforts. Good hotels and lodging houses are abundant; steam communication with all parts of the Mediterranean is frequent and rapid; good carriages and saddle horses may be obtained, and country houses for those whose condition renders any particular locality desirable. Those who are fond of society may readily mix with that class which is met with in English garrison towns and sea ports.

[To be continued.]

MEDICAL GAZETTE.

FRIDAY, JANUARY 19, 1849.

One of the most creditable acts which has been performed under the orders of the non-medical Board of Health, is the searching inquiry which they have caused to be made by Mr. Grainger, into the circumstances connected with the appearance of the Cholera at the Tooting Pauper Asylum. We have not hitherto had it in our power to compliment the Board on their proceedings, and therefore it is only an act of justice to give them that credit which is certainly due to them on the present occasion. No *medical* Board could have acted more promptly or more energetically. The great public alarm which was occasioned by the rapidly fatal progress of cholera among the pauper children, has in a great degree subsided since the appearance of Mr. Grainger's report. Until this report had been made public, all was mystery: it was stated that the disease had commenced suddenly without premonitory symptoms; that the children were well fed, well attended, and well lodged: then again we were informed that there was nothing in the food, or in or about the establishment, to account for the suddenness and severity of the attacks. If these statements had been borne out by the official inquiry made into the facts, nothing that could have been said in the daily journals or medical press would have prevented the extension of a universal panic through the metropolis. Happily, however, the public mind has been reassured by the discovery that the statements first circulated have not been borne out by the result of the investigation; and we learn from this report that the cholera has here, as in all other places of Europe, only shown an unusual degree of malignity, because the circumstances under which these unfortunate children were placed, were highly favourable to its attacks. It has been wisely said by an eminent statesman:—"*En général il vaut mieux aborder le malheur en front que de l'attendre dans l'inaction. En l'envisageant daus toute son etendue, on s'aperçoit plus facilement, comment il est encore possible d'échapper à toutes ses consequences.*" It would have been well had the managers of the Asylum acted up to the principle referred to in the first sentence of this quotation. It will be the duty of the public to be guided by the advice contained in the last sentence; and after the publication of the official report, it will be little short of suicide for individuals to neglect those simple precautions by which the severe attacks of this unmanageable disease may be for the most part averted.

The Tooting cases form no exception to the general run of cholera. Thus Mr. Grainger states:—

> "It appears that a significant warning of the approaching outbreak was given fourteen days before a single case of cholera had occurred. Three girls were on Friday, Dec. 15, attacked with vomiting, diarrhœa, and collapse; but this warning was not understood by the resident medical officer, who supposed the cases were dependent on cold and dampness; and thus, no suspicion being awakened of the true character of the attack, none of those preventive measures which experience has proved to be most effective were adopted; no inquiry was instituted as to the prevalence of diarrhœa among the children: no alteration was made in their diet, and no means was adopted to guard them from the noxious effect of overcrowded and unventilated rooms. If at this time, fourteen days before the fatal outbreak, due and proper measures had been carried into effect, a large part of the evil that has since occurred, it is certain, would have been averted.
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> "It further appears from the evidence, that after the attack of cholera no efficient means were adopted either to discover the existence of the premonitory diarrhœa, or for its treatment when it was brought under the notice of the resident medical officer. Thus, the mistress of the girls says "she had received no direction to question the children whether they have diarrhœa," and a similar statement is made by the master and one of the under-masters, the only officials of this class questioned by me: whilst, as regards the medical officer, he could not undertake this duty if it had ever been contemplated, being overcharged with attendance on the sick. With respect to the treatment of the premonitory diarrhœa, although all the medical authorities connected with the Board of Health in England, Ireland, and Scotland, have, in their published instructions, advised the use of some preparation of opium, that medicine had not been administered in a single case of diarrhœa up to my visit on Friday, the medical officer relying on astringents.
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> "That there has been, as in all similar circumstances, a large amount of diarrhœa prevailing among the children at this establishment, both previous to and since the outbreak of cholera, is abundantly proved. One of the assistant-masters stated to me, "he had observed that the boys had been purged during the last fortnight, and especially since yesterday week.
>
> "The schoolmistress also states, that "many of the children have been taken with pain in the bowels." The resident medical officer says, many of the children attacked by cholera had informed him that they had suffered from diarrhœa before the attack, some for a day or two, and others longer. The inquiry instituted at my suggestion by the several medical gentlemen now in attendance led to the discovery of 38 cases of diarrhœa on Saturday and a part of Sunday, although the number of children had then been diminished one half by removals: among these cases only one child had on Sunday passed into cholera."

From this extract it clearly appears that there was an entire neglect of the premonitory symptoms, and the result of this neglect, in the present epidemic constitution of the air, is very well known. Considering the ages of these children, and their ignorance of the danger to which they were exposed by the persistence of diarrhœa, inquiry should have been made on the subject. The result conveys a warning to the managers of schools, as well as to the proprietors of those establishments where a large number of children are congregated.

It has been publicly stated, but upon no satisfactory grounds, that the disease was *not* cholera; and one medical gentleman in his reports has given it the name of the "Tooting" disease. The following remarks by Mr. Grainger, irrespective of the accumulated evidence of other competent judges, prove that the disease was really Asiatic cholera, but, singularly enough, assuming an *endemic*, or an *enchorial* form, in this asylum:—

"Since my former report I have myself made several careful observations, microscopic and others, and I may state that I have in no case of cholera which I have examined, either in this country or in Germany, seen the special characters of the disease more distinctly developed. No mark was wanting. . . . . As always happens in Europe, the epidemic at Mr. Drouet's establishment has lately changed its character. At first several of the children were seized without having had the premonitory diarrhœa, and those who died sank in the stage of collapse. Latterly there has been the premonitory diarrhœa in almost every case, if not in all; and now the disease lasts longer, and many of the children have passed into the stage of consecutive fever, in which there is no doubt a large number will die. One case of the *cholera sicca* has been observed, in which the child rapidly died, without either purging or vomiting. All these facts prove, indisputably, that the epidemic, as stated in my first report, is true Asiatic cholera."

In reply to questions from the coroner, he further says,—

"I have no doubt whatever that the disease raging in Mr. Drouet's establishment is true malignant Asiatic cholera. My opinion on that point rests upon considerable acquaintance with the disease when it visited London in 1833; upon the observations I made in Hamburgh and Berlin, which places I was commissioned by the Government to visit in September last, to observe the Asiatic cholera then prevailing in those cities; and upon the study of many of the best works upon the subject, by the most eminent pathologists of Germany and other European countries. The most striking of the symptoms were suppression of urine, retention of bile, collapse, cold surface, blueness of various parts of the body, prostration of pulse, cold and flabby tongue, cold breath, violent cramps, sunken eyes, profuse rice-water dejections and vomitings, and absence of salivary secretions. That form of cholera in which there were no discharges, and which was termed "*cholera sicca*," was the most violent and fatal. He had seen some of the children at Tooting who were suffering most severely from cramps and spasms, but who did not shed a tear, in consequence of the effect of the disease upon the secretions. All the symptoms he had described were more or less observable in the cases which had occurred at Tooting."

In his report, Mr. Grainger speaks of the disease which appeared at the asylum as being "epidemic," and "true Asiatic cholera." We have no doubt that the disease is cholera, and as closely as possible identical with that formidable malady which has been for some years *progressing* westwards through Asia and Europe, but we do not perceive how the use of the term "epidemic" can be applied to this disease under the circumstances mentioned in the subjoined extract from his evidence:—

"In the case at Tooting, the disease has been *bound within the walls* of Mr. Drouet's establishment. Great numbers of persons have been in and out the house daily, but, from the information I have received from medical gentlemen in the neighbourhood, it appears that the disease was as *completely confined within the walls of the asylum* as if the boundaries had been drawn by the line and rule."

This is the first time we have ever heard of an "*epidemic*" being "completely confined within the walls of an asylum, as if the boundaries had been drawn by line and rule." To us it appears to be a complete misapplication of the term, and one which is liable to mislead the public. We had always thought that the essential character of an epidemic disease was that it was *not* confined within walls by line and rule; and that this was rather the special character of a contagious disease. On this part of the case, Mr. Grainger says:—

"I believe it under no form or circumstance whatever to be a contagious disease. I have never met with any fact which has led me to believe it to be communicable from man to man. . . . . Throughout Europe, those medical men who have had the best opportunities of investigating the character of the disease, are convinced that it is not contagious."

Mr. Grainger must be too well acquainted with logic not to know that the settlement of a disputed medical question cannot rest upon what *one* practitioner may have personally witnessed. A man, for example, may affirm that dysentery is under no form or circumstances a contagious disease, because *he* may never have met with any fact which had led him to believe that it was communicable from man to man. We invite the few who are inclined to settle these complicated questions entirely by their own experience, to consider the facts recently communicated to this journal by Mr. Richard Moyle, of Penzance, in an interesting paper on a fatal dysentery which appeared in that town during the last summer.* The disease was not confined "by line and rule," it was really epidemic, and is proved to have been not only imported but diffused by contagion.† As more closely bearing upon the case before us, we would suggest to Mr. Grainger that he should pay some deference to the observations of others. Among numerous instances that might be cited strongly adverse to his opinion, we shall only refer to one related by Dr. Merryweather at page 812 of our last volume.‡ We shall be happy to receive from Mr. Grainger such an explanation of Dr. Merryweather's case as will render it certain that, "under no form or circumstances," is the cholera a contagious disease; and in the meantime we may inquire, if overcrowded and ill-ventilated wards be not *circumstances* which tend to favour the spreading of cholera by the intercourse of the sick, where was the necessity for the immediate removal of the children? We can understand that such a proceeding should be adopted on the ground of insufficient medical attendance at the Asylum: but this was not the *only* reason; for, had the medical staff been doubled or tripled, all who are acquainted with the cholera know that, by over-crowding and deficient ventilation, the disease would have continued to spread with unabated malignancy.

> "The children who had not been attacked with the disease at Tooting were removed at the recommendation of the Board of Health, in order that they might be conveyed to some place where they would not be exposed to the ill effects of over-crowding."

These "ill effects" surely refer to the spreading of the disease from the sick to the healthy, as in cases of fever. If not, what is really intended by the expression? The employment of some of the children of the establishment as nurses in the sick wards is objected to, not because the cholera is "under any circumstances whatever a contagious disease, or communicable from man to man," but because—it was exposing them to imminent danger!

> "An attempt was made to make up for this insufficient supply of nurses, by employing some of the older pauper boys and girls still free from attack; in one of the boys' wards, I found, for example, four boys, of the average age of 13, thus assisting; even some of the children recovering from cholera were so employed. This is a most objectionable procedure, inasmuch as to bring children already acted on by the cholera poison, and perhaps on the very verge of an attack, into the contaminated atmosphere of such sick wards as these, was to expose them to imminent danger; whilst, as regards those who were recovering, it was of primary importance that they, instead of being detained in attendance on the sick, should have been removed as early as possible into properly prepared convalescent wards."

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* See our last volume, p. 1096.

‡ It has been somewhat absurdly contended that a disease really contagious would never be lost in a population. This is mere theory: scarlatina appears and disappears in localities, and yet there can be no doubt that this disease is contagious. The Penzance dysentery ceased after a time; and it is the general character of morbid poisons, that after a certain period they lose their power on the human system. Theorists lay down the law one way—Nature another.

† Mr. Noble, of Manchester, has furnished us with an interesting paper on the subject of *Contagion* in Cholera, which we shall take an early opportunity of publishing.

We pass over the cruelty of making children already convalescent, act as nurses to others who were subsequently attacked, in order to find, if possible, how the reporter reconciles his objection to the employment of children apparently healthy, and as yet free from the disease, with his strongly-pronounced opinion of its not being in any way communicable. The nurses and medical attendants equally breathed "the cholera poison," and whoever entered the wards would have to breathe "the contaminated atmosphere;" and yet it is inferred that there is no contagion because the attendants and nurses did not take the disease. At the same time, we are told in another part of the report that there are circumstances which favour the communication of cholera.

> "Another consequence of this neglect was, that the few nurses in attendance were exhausted by fatigue; two of them from St. Pancras had been in attendance on the sick from Friday night, and were thus placed in a most dangerous condition, perilous to their lives, by being exposed to the epidemic, with the vital powers debilitated by long watching and incessant fatigue."

In our judgment, such a statement as this cannot be made with respect to any disease in which a poison capable of communication from man to man is *not* generated within the bodies of the sick. Epidemics free from any contagious property are not confined to wards, nor are nurses rendered more liable to a seizure by attendance on the sick. Long watching and incessant fatigue create the victims for animal poisons exhaled from the bodies of the sick; and although the same conditions favour the attacks of epidemics, yet if the disease be not communicable, the individual will be just as liable to an attack *out* of the sick ward as *in* it. This leads us to inquire, if the disease be, as it is asserted, epidemic—*i. e.* a poison diffused through the air irrespective of human origin or human intercourse,—how it has happened that the inhabitants of Tooting, who must have been exposed to the exhalations from the ditches, &c., have escaped? Mr. Grainger sums up on this point as follows:—

> "Besides the general causes operating upon the children, the only two special causes operating within the house appeared to me to be the clothing and diet of the children, and their condition with regard to overcrowding. I think, if children similarly fed and clothed to those at Tooting had been divided over the country in healthy districts, they would not have been affected by the disease.* I think the principal special cause of the disease was the inordinate overcrowding of the establishment; but it is to the system which permits this state of things that all the mischief must eventually be referred.

The ditches and the atmosphere have, therefore, had less to do with the production of the disease than overcrowding, deficient clothing, and improper food; but the overcrowding was in Mr. Grainger's opinion the most efficient special cause. A disease so produced, and so confined within the walls of a building, cannot be called *epidemic:* nor is it likely that the children could transport the epidemic with them; whereas we had occasion to state in our last number, that soon after the arrival of some of the children in the parish of St. Pancras, the cholera began to show itself among other children in the neighbourhood who had not been to Tooting.

The following extract from the Times of the 15th inst., has a significant bearing upon this transportation of a so-called epidemic:—

> "Two decided cases of Asiatic cholera have occurred at the Holborn Union Workhouses, and have both terminated fatally. The first case was a man, aged 57, admitted to the workhouse in August last, taken ill on Saturday morning, and died at eleven o'clock on Saturday night. He had not been in the slightest degree in connexion with the children or any of the persons at the Royal Free Hospital.† The other case was a man,

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* Evidence was given at the recent inquest to show that the provisions supplied by Mr. Drouet to the children were of good quality, and in sufficient quantity.

† At the inquest, it was stated that a man of

aged 29. He had been in and out of the workhouse frequently, and in November was sent to the Fever Hospital, from which place he returned to the workhouse on the 12th of December. He was employed as a messenger, and to carry provisions, &c.| from the workhouse to the Royal Free Hospital, for the use of the nurses and children. He was taken ill on Saturday afternoon, and died yesterday at two o'clock P.M. The children belonging to the Union, and now at the Royal Free Hospital, and in Greville Street, are progressing most favourably, but one of the nurses at the hospital, in attendance on the children, has had an attack of cholera, and is now considered dangerously ill."

Although we decidedly object to the great mystification which prevails throughout this Report on the question of contagion,—for all that is stated by Mr. Grainger would just as effectually prove that typhus fever is, under no circumstances, contagious,—we nevertheless consider that the publication of it has been a most satisfactory procedure on the part of the Board of Health; and the mode in which it is drawn up, with the exception of the conflicting statements regarding contagion, reflects great credit on the *reporter*. It will have the effect of *completely* reassuring the public, and of demonstrating to all persons how a most fatal and intractable disorder may, at the present time, proceed from a neglect of the most common sanitary precautions.

If Mr. Grainger really wishes to arrive at the truth, he will do well to add to his experience the facts connected with the occurrence of these cases in the Holborn Union, and in St. Pancras. They may turn out to be such as to induce him to believe that the cholera *may* be communicated from man to man. If the nurses escaped at Tooting, they have not, according to this report, escaped at the Royal Free Hospital; and, as the cholera did not exist in this hospital *before* the arrival of the children from Tooting, their bodies or their clothing must have evolved something which could impart the disease to others. Mr. Grainger may call this an "epidemic" influence—most medical men would call it "contagion;" and, at any rate, if the facts be admitted, the difference is only verbal.

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It will be observed, from our weekly summary, that the deaths in the metropolis have again undergone a sudden increase, being 279 above the winter average. This must be attributed to the great fatality of zymotic and pulmonary diseases. The deaths from cholera have increased to 94; but the large proportion of these fatal cases occurred among children who either were or had been in the Tooting Asylum.

The cases recorded in the metropolis on the 11th were 27, and the deaths 24; on the 12th, 8, and the deaths 11; on the 14th and 15th, 14, and the deaths 19; on the 16th there were three cases and no deaths; and on the 17th, there were 11 cases and 6 deaths.

The disease appears to have somewhat abated at Glasgow, but the cases and deaths are still very numerous. In the provinces the cases are but very few. The disease suddenly appears in widely removed spots in the most erratic manner. Two rapidly fatal cases have occurred during the last week in the neighbourhood of Oxford; and we have also information of the disease having shewn itself in the old prison at Wakefield, where ten deaths had already occurred, and a large number of prisoners were under treatment.

The cases and deaths up to the 17th inst. are as follows:—

	Cases.	Deaths.
London . .	756	420
Provinces .	511	247
Scotland . .	6665	2912
	7932	3579

It is satisfactory to find by the last report (the 17th), that there have been no fresh cases of cholera in the Tooting Asylum since Sunday, and the children are rapidly improving in health. The accounts from St. Pancras and the Holborn Union are also of a more favourable character.

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the name of Kelly, who slept in the next bed to King, had been seized with cholera, and was then lying dead. At another inquest, Mr. Bird, who attends the children returned from Tooting to St. Pancras, stated, that in his opinion the cholera is contagious. This opinion was given in answer to a question put by the coroner, and Mr. Bird supported it by referring to the case of one of his nurses, who had been attacked by the disease, and was in a state of collapse. He said that she had not been to Tooting, and was in very good health previously to attending on the children.

Reviews.

Hints towards the Formation of a more comprehensive Theory of Life. By S. T. Coleridge. Edited by Seth B. Watson, M.D. &c. 8vo. pp. 94. London: Churchill. 1848.

Want of space would put it quite out of our power to give a complete analysis of this work, even if we were quite sure that we understood the views of the author. If it be correct to say that truth is better evolved from error than from confusion, then we think there will be no chance of extracting truth, or even one grain of useful information, from the extraordinary medley before us. Mr. Coleridge appears in this work as a thorough materialist; and yet every body knows that he was a pious Christian. As far as we can comprehend his views, he attacks the theories of life propounded by Bichat, Lawrence, and other writers, who consider it to be the result of organized structure; and he then concedes to his adversaries much more than they demand, by endowing universal matter with vital properties. Galvanism, according to him, is nothing more than metallic *irritability*, and the arborescent crystallization of water over a pane of glass on a frosty morning, is considered to have some (vital) relation to the more perfect forms developed in the vegetable world. In our judgment, this relation is no greater than that which exists between the dog's tooth spar found in Derbyshire, and the tooth of the living animal.

The admirers of the mystical—the *addicti jurare in verba magistri*—may accuse us of putting a wrong interpretation on the views of a writer, who, we are glad to find by the preface, always marshalled his thoughts in an order perfectly intelligible to *himself*, if not to his hearers or readers; and we shall therefore allow him to speak for himself—

> "What is life? Were such a question proposed, we should be tempted to answer (ask?) what is *not* life that really *is*? Our reason convinces us that the quantities of things taken abstractedly as quantity, exist only in the relations they bear to the percipient; in plainer words, they exist only in our minds *ut quorum esse est percipi*." (p. 38.)

Mr. Coleridge appears to consider that the most satisfactory way of answering one question, is to put another, involving the proof of a negative! As he is admitted to have had a method of his own, he may have had dialectics of his own; but this mode of smothering intricate problems in physiology does not appear to us to be the best plan for producing conviction in the mind of a reader. The reader wishes to know—what is life, and he is immediately checkmated by the wily author, who insists upon having from him, in the first instance, an explanation of what is *not* life!

The most thorough materialist and atheist must, we think, feel quite satisfied with the following development of the theory.

> "Life, it is admitted on all hands, does not necessarily imply consciousness or sensibility; and we, for our parts, cannot see that the irritability (!) which metals manifest to galvanism, can be more remote from that which may be supposed to exist in the tribe of lichens, or in the helvellæ, pezizæ, &c., than the latter is from the phenomena of excitability in the human body, whatever name it may be called by, or in whatever way it may modify itself. That the mere act of growth does not constitute the idea of life, or the absence of that act exclude it, we have a proof in every egg before it is placed under the hen, and in every grain of corn before it is put into the soil. All that could be deduced by fair reasoning would amount to this only, that the life of metals, as the power which effects and determines their comparative cohesion, ductility, &c., was yet lower on the scale than the life which produces the first attempts of organisation in the almost shapeless tremella, or in such fungi as grow in the dark recesses of the mine." (p. 40.)

Life, it is true, does not necessarily imply consciousness or sensibility, but it does not therefore follow that all things which are unconscious or insensible are living. We do not understand what is meant by the "irritability" which metals manifest to galvanism, and hence we are unable to appreciate the force of the comparison. The power by which a lichen grows, lives, and extracts the elements of the air and earth for its growth, can no more be compared with the conducting power (irritability?) of a metal for the electric current, than can the sound of a trumpet with the colours of the solar spectrum. After showing that life may exist without consciousness or sensibility, we are next informed that the mere *act* of growth does not constitute the idea of life; and it is inferred that life may exist in stones and metals, because the egg does not manifest growth or development *before* it is placed under the hen, nor a grain of corn *before* it is put into the soil! We must wholly dissent from this mode of reasoning, which we consider to be anything but fair.[*] We do not see why the author is to select the precise time and circumstances for his comparison. The results which occur *after* the egg has been placed under the hen, and *after* the grain of corn has been put into the soil, show plainly that these bodies, although we can see nothing in them but matter arranged in a peculiar, constant, and undeviating form, must differ, in an extraordinary degree, from a lump of iron or a mass of gold, notwithstanding the assumption that there is a metallic life within them. The fact is, there is no proof of the presence in these metals of any principle like that which causes the egg and seed to grow *after* it has been submitted to certain conditions; and if the egg and seed resemble these metals in not manifesting the *act* at one time, they differ in the possession of a *power* of growth at another.[†] We must take them not only as what they appear to be, but as to what change they will undergo when exposed to the influence of heat and moisture; and herein we have that idea of life which places these bodies as remotely from a piece of iron-ore as a human being is placed from a lump of clay. It suits Mr. Coleridge's theory to limit his comparison to the act, and not the power, —to one state and to one point of time; but this, as we think must be obvious, is a very unfair way of dealing with the question.[*]

The fact is, as every physiologist knows, it is exceedingly difficult to give in a few words a correct definition of the term *life*: it is a complex, and not a simple, idea. It appears to us that the author of this essay has made the most of this difficulty, and, with a very imperfect knowledge of physiology, he has contrived to conceal many plain facts under a species of mystical logic, the fallacies of which it is not always easy to detect and expose. One part of his theory includes the exploded notion that carbon is the basis of the vegetable kingdom, and azote, or nitrogen, of the animal; and there are other parts equally unsound. We may not be able to say at what point the vital properties of organsied matter end, and the physical properties of unorganised matter begin, any more than we can point out in the solar spectrum the exact point at which the blue ray ceases and the yellow ray commences; but because we cannot thus fix a definite boundary, it would be most illogical to contend that blue and yellow were only shades of the same colour, and that yellow was but an inferior degree of blue. Our readers will, we think, agree with us that these "hints," so far from leading to a more comprehensive theory of life, rather tend to make the subject more confused; and it is some satisfaction to find, from the preface, that the editor does not make himself "responsible either for Mr. Coleridge's speculations, or for the manner in which they are enunciated."

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[*] By parity of reasoning, an ingenious logician might contend that vegetables were only an inferior degree of animals—that a cabbage was an animal on a lower scale! Neither consciousness, sensibility, the power of growth, propagation, or locomotion, is essential to the idea of an animal. Growth and propagation are common to vegetables and animals, and as the other characters mentioned are not found in the former, and are not absolutely essential to the idea of the latter, it is a fair deduction that there is, strictly speaking, no assignable difference. Nevertheless, we are not likely to confound a cabbage with a caterpillar!

[†] There is also a property in the egg *before* it is placed under the hen, which indicates the existence within it of a peculiar power or force. If the author had only broken a fresh egg, so as to expose its contents, and had laid by its side another fresh egg, unbroken, he would have found that the contents of the broken egg would have speedily undergone those chemical changes which indicate putrefaction, while the contents of the unbroken egg would have remained perfectly fresh for many weeks. What is it that prevents chemical changes from taking place in the unbroken egg? It is not because the shell is impervious to air: for it is well known that the shell is eminently porous. The perfect structure of the egg must therefore possess a power of resisting chemical changes, which is lost when that structure is destroyed; and this resistance to chemical agencies, manifested by the same body at one time and not at another, is as much indicative of the presence of *life* as the mere act of growth.

[*] The problem was some years since solved unconsciously by a native of Australia. The Governor of the colony had given the man a number of packets of seeds for sowing in the interior, and by accident a packet of small fish-hooks was mixed with them. The savage, in that primitive state of simplicity which then characterised the natives, sowed the contents of the whole of the packets, and, at a subsequent interview with the colonial authorities, stated that all the seeds had come up, but the *hooks* would not grow in spite of every care as to watering, &c. The untutored savage here found a difference, which has apparently bewildered the mind of the civilized sage. The absence of the mere *act* of growth in the seeds and hooks before planting, did not exclude the idea of life: the mistake of the Australian, was, therefore, quite natural on Mr. Coleridge's theory; but the presence of a *power* of growth, evinced on putting the seed into the soil, satisfied the mind of the savage that there must have been a something in the *seed* which did not exist in the *fish-hook!* This plain and obvious difference, however, does not convince the philosopher. Cohesion, ductility, and malleability, indicate life (!) in metals, only on a lower scale than that which is found in tremellæ and fungi! When Mr. Coleridge has established that life, as it is reasonably interpreted, exists under any circumstances in metals, it will then be time to consider its degree, and to compare it with the same force which leads the living organism, whether animal or vegetable, to manifest consciousness, sensibility, a power to grow, and the act of growth, when placed under certain conditions of heat, moisture, &c., as well as a power to produce and propagate organisms resembling its own, and endowed with similar powers; but until this proof is afforded, his argument is a mere quibble about words. A theoretical philosopher proposes to call malleability and ductility, as manifested by gold and iron, *life*. The majority of those who have studied the subject practically, consider this to be a misapplication of language; and there is an end of the matter.

Medical Jurisprudence. By ALFRED S. TAYLOR, F.R.S., Licentiate of the Royal College of Physicians, Member of the Royal College of Surgeons, and Professor of Medical Jurisprudence and of Chemistry in Guy's Hospital. Third Edition, pp. 849. London: Churchill.

THE fact that four thousand copies of this work have been sold in less than four years, is a proof not only that the book is acceptable to the public, but that the study of medical jurisprudence is not neglected. That it should receive its full share of attention is, indeed, loudly demanded,—not only by the importance of the subject, but by the difficulty of grappling with it.

Every day's experience shows how numerous are the sources of fallacy which interfere with the expression of a correct medical opinion in our Courts of law. We recollect a case arising out of a policy of insurance, in which men of high standing in the profession were the witnesses examined, where the pathological facts attested and the inferences drawn from them, were totally irreconcileable. Another case,* which was the subject of comment in a recent number of this journal, shows, indeed, how easily the prejudice created by an accusation of murder, may overpower the judgment and prevent an accurate estimation of medical facts.

The author, in his preface, calls attention to new matter contained in the present edition. Among other subjects, reference is made to a paper of Mr. Curling's, in the section on Burns, wherein that gentleman determined that certain fissures in the skin (supposed to be wounds) were the result of the action of fire and not of suspected mechanical violence. He drew this conclusion from the fact that some uninjured blood-vessels traversed the fissure,—the great tenacity of their coats enabling them to resist the laceration, which was merely owing to the effect of heat corrugating the skin, and destroying its elasticity.

Dr. Taylor also states that "the chapters on pregnancy and delivery have been almost entirely re-written, and the new views of physiologists regarding the evidence derivable from the presence of corpora lutea are fully considered.''

Although the recent publication of the author's work on Poisons has induced him to abridge the section of this portion of the Treatise on Medical Jurisprudence, yet more than a hundred pages have been added to the present edition.

The young medical student will find in this book abundant matter of interest, and it will show him very forcibly the practical application of every science connected with medicine to the purposes of the law. To the practitioner who is called on to perform the responsible duties of a medical witness, we deem this volume indispensable as a work of reference.

The London and Provincial Medical Directory for 1849. London: Churchill.

THE editors of this most useful publication deserve great credit for their indefatigable efforts to render it perfect. The volume issued for the present year has been made more extensively useful than any of those which have preceded it. Among the improvements, we notice a street list, by which, on reference to any metropolitan locality, we may at once ascertain the names of the gentlemen there practising. We find by this useful list, that medical men have been wrongly accused of taking entire possession of Finsbury Square, and Saville Row. There are *only* twenty-two practitioners in the Square, one half of whom are physicians; while the Row can claim no more than *fourteen*, exclusive of dentists! The metropolitan list is much improved by reducing the extraordinary number of titles and lists of works formerly assigned to four-fifths of the metropolitan practitioners. Then we have dead-letter and supplemental lists —the gentlemen who find a place in the former, will be presumed dead until the contrary is proved. There is the usual information concerning the Colleges and the London Hospitals, with their Medical Schools. The Provincial part of the Directory, which is very full, is preceded by a local list, containing the names of practitioners in each county, with the towns arranged alphabetically. This is followed by a list of surgeons in the Army and Navy,—an account of the regulations of the English, Scotch, and Irish Universities, and of Provincial Hospitals and Dispensaries. The *volume* is closed with an obituary for the past year, and a table of fees claimable by medical witnesses.

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* Case of *Reg.* v. *Dore and Spry.*

The work is printed on thin paper, and by the omission of the diary, which was useless, it is rendered very compact and portable. After this enumeration of its contents, we need hardly say that we consider it to be a most useful annual for the library table. It is, indeed, indispensable to a man actively engaged in professional practice, and who may be desirous of knowing something of the qualifications and standing of those with whom he is brought daily in contact.

The Directory is a cheap publication, and the editors deserve the thanks of the profession for the pains which they have bestowed upon it.

OBITUARY.

On Sunday, the 14th inst., at the residence of his brother-in-law, No. 10, Carburton Street, Portland Road, John Pratt, Esq., M.R.C.S., in the 57th year of his age, deeply lamented by his family and friends.

Proceedings of Societies.

MANCHESTER PATHOLOGICAL SOCIETY.

Atrophy of upper part of Spinal Chord—general paralysis—sudden death.

Mr. Farr presented a preparation showing atrophy and softening of the lower part of the medulla oblongata and commencement of the spinal chord.

The woman was ill one month. Her age was 25 years, and she had led an irregular life.

Her first symptoms were pain across the temples, stiffness of the neck, and inability to move the head on either side. She attributed the illness to mal-treatment. Leeches, counter-irritation, and purging, relieved her, and she was enabled to leave her bed. Two weeks before her death she struck her occiput against a door lintel. On the morning following, the rigidity of the muscles returned, with pain in the upper part of the spine. The same treatment repeated failed to relieve her. She grew worse: first lost all sensation in the neck and upper extremities; then in the lower extremities; and afterwards had paralysis of the neck of the bladder. The mental faculties remained unimpaired, and she died suddenly, whilst being removed from bed.

Aneurism of ascending Arch of Aorta.

Dr. Renaud presented the heart of a man, aged 24 years, who died suddenly, after suffering aneurism of the ascending aorta twelve months. The heart was hypertrophied, but there was not any valvular disease, and only one or two faint appearances of atheroma in the aorta. The aneurismal opening was found about half an inch above the sigmoid valves, in size rather larger than a shilling, and well rounded at the margins. The aneurismal sac extended behind the right lung, was very capacious, and formed a bulging over the convexities of the third, fourth, fifth, and sixth ribs. It contained but few coagula, the greater part of which were of recent date.

The right lung was leathery, and greatly compressed; and it adhered strongly on the pleural surfaces.

The man was a tailor, subject to confinement during the day, and in the habit of exercising himself at a gymnasium in the evening. On one of these occasions, after swinging by the hands until much tired, he suddenly experienced great dyspnœa, faintness, palpitation, and a feeling of constriction around the chest. At the expiration of two hours he was recovered sufficiently to walk home. For a week he suffered precordial pains, and then was enabled to resume his work, but could not take active exercise. A fortnight after the first attack, he felt pain beneath the left nipple, which increased, with occasional intermissions, up to the time of his death. In the evenings he would complain of palpitation, faintness, and pain in the back. Cough and dyspnœa followed these symptoms.

When first seen, three weeks before his death, he had a heavy and bloated countenance: the veins of the neck were distended; the pulse at the wrist was feeble and quick, at an interval later than the heart's systole. Breathing 24 per minute when quiet. Sleep disturbed with cough, dyspnœa, and feeling of suffocation. Inability to lie on the left side. The pulsating tumor in the right side appeared seven weeks before his death, was synchronous with the heart's action, and associated with a blowing murmur, going along with the first sound, and heard most loudly at the point of junction of the fourth rib with the sternum. The respiration was peurile in the left side of the chest, and inaudible on the right side below the third rib.

Abscess of right Corpus Striatum—irritation and inflammation of the membranes of the brain, with effusion of lymph at the base—Absence of paralysis, or other symptoms, until within twelve hours of death.

Mr. FARR presented the brain of a young woman, 19 years old, of which the right corpus striatum and parts adjacent were broken down and excavated by chronic abscess. Extensive effusion of lymph and serum had taken place into the ventricles. On section through the corpus striatum, upwards of an ounce of grass-green coloured pus, mixed with softened brain, flowed out. The convolutions were flattened, as from too great compression. The arachnoid covering the hemispheres was dry. The pia mater had not the appearance of congestion. The dura mater adhered with unusual firmness to the skull. Concrete lymph was effused into the sub-arachnoid cellular tissue, around the medulla oblongata, pons varolii, cerebellum, and optic nerves. The girl had syphilis, but with this exception all the other viscera of the body were healthy.

She was a prostitute, and had been admitted into one of the sick wards of the Manchester union workhouse, suffering from diarrhœa. She was addicted to drinking, had a small appetite, and bore a reputation for cheerfulness and liveliness of disposition.

On the night preceding her death, she retired as usual, but became restless, and frequently got in and out of bed without assigning any reason for the act. Sickness and diarrhœa set in, and at nine o'clock in the morning convulsions of the entire body occurred, and lasted a quarter of an hour. The right eyelid remained closed, and the pupils were dilated and disobedient to light. At ten o'clock the convulsions returned, the right arm on this occasion being more agitated than the left; breathing slow and slightly blowing; pulse quick and feeble; skin of natural warmth. By six o'clock she was perfectly insensible, and at seven she died.

Attention was called to the previous history of the girl, and the known fact of her cheerfulness up to the day of admission, and subsequently.

The diarrhœa under which she suffered differed in nothing from the severe autumnal purging then so common all over Manchester. The first clue to the disease in the brain showed itself in the restlessness and getting in and out of bed,—a symptom noticed by Mr. John Bell in connection with abscess of the brain following injuries of the skull. The convulsions, dilated pupils, and the apoplectic coma that followed, seemed to receive an explanation on the acknowledged principle that they may be, and indeed frequently are, caused by pressure, or the irritation that follows the tearing of the white fibres of the brain; and it is presumable that on the morning of these occurrences the abscess of the corpus striatum gave way into the ventricles.

The dryness of the membranes covering the cerebral hemispheres, the lymph effused around the base, and the flatness of the convolutions, bespoke alike the pressure and irritation that had been silently endured.

Perhaps the most remarkable feature of the case was the abscess in the corpus striatum, which failed to produce any recognised symptoms by which the least suspicion of disease could be aroused, although it must have existed some time.

As it is customary now to look upon the corpora striata as the anterior cerebral ganglia of the spinal chord, through which the white fibres of the brain pass from the hemispheres, and descend to form the motory tract, receiving a stimulus in their passage through these bodies, it would seem conformable to physiology that so serious a pathological lesion should have been more manifest. To quote from Mr. Solly—"I believe it is an invariable fact, that extravasation into the corpus striatum is followed by paralysis, and consequently there is no portion of the brain that pathology has so clearly indicated the function of, as the corpus striatum, in so far as volition and the production of voluntary motion is concerned." Other pathologists have rendered like testimony.

Chronic Thickening of the Gall Bladder, and ducts of the Liver—jaundice—breaking up of the cell structure of the liver, &c.

Dr. Bell presented the liver of a man, aged 33 years, who had led an intemperate life. The liver was very large, dark-coloured, and congested. A thick layer of recent lymph covered its peritoneal surface. On section, a number of cavities were brought into view, varying in size from that of a walnut, upwards, and filled with aggregated masses of inspissated bile, and cells proper to the liver, in a state of disintegration. In the lower margin of the right lobe, one of these excavations, when emptied of the contents, was capable of holding six or eight ounces of fluid. The intermediate portions of the liver were fatty. The biliary ducts were all thickened by chronic inflammation, and so was the gall-bladder, on the mucous membrane of which a number of ulcerations existed.

Under the microscope, the cells of the liver were found loaded with oil globules. Where the breaking down of the liver had occurred, all traces of cells were lost, and nothing but granules, free oil, and biliary matter, were to be seen. There did not exist any evidence of suppuration.

In July the man had an attack of jaundice, for which he was cupped, and took blue pill, &c. He partially recovered, and went to Liverpool, where he renewed his habits of intemperance.

Towards the latter end of September he again sought relief. The skin had assumed a deep mahogany colour. There was fulness and acute pain over the hepatic region; much flatulent distension in the abdomen, and low fever. He died in 12 days.

The case is valuable in illustrating a form of disease recognised of late years, and described by Dr. Budd in his work on diseases of the liver, where two cases of a somewhat similar nature are detailed. The present case has this distinguishing difference,—that the intervening portions of liver had not suffered a disintegration of structure, but were only loaded with free oil.

Purulent Phlebitis—secondary purulent deposits in the lungs, liver, &c.

Mr. Coveney presented preparations of inflamed lungs, liver, and veins, illustrative of a series of cases of purulent phlebitis, following operations and injuries which had recently occurred in the Manchester Royal Infirmary.

The preparations and history of cases tended to confirm the views taken of the pathology of this affection, some years ago, by Mr. Arnott, and corroborated by the experiments of French pathologists—viz. that the immediate risk to life consisted in a low form of inflammation in the lungs and liver, induced by the presence of pus in the circulation, and leading to a peculiar form of effusion, followed by abscesses in these viscera.

Case I.—A healthy man, aged 32 years, suffered laceration of the left arm on the 11th October, and had it amputated just below the head of the humerus. The stump granulated well, and, with the exception of some protrusion of the end of the bone, he appeared to progress favourably.

Nov. 9.—Had repeated rigors, with pain and tenderness in the left groin, and down the inside of the thigh, as low as the knee.

There was some thickening in the left groin, and about four inches down the course of the femoral vessels, but not any discolouration. Pain on pressure in the right hypochondrium and in the epigastrium; sickness on taking food; had a short cough; lay on his back, with the left thigh flexed; had a flushed and anxious countenance; a dry and glazed tongue; a quick and sharp, but not firm pulse. These symptoms were followed by delirium during the night.

22nd.—Died.

Beneath the cicatrix of the stump a small abscess extended into the axilla. The surrounding structures were thickened and black, and the veins opening into the stump were thickened and lined with pus for about one quarter of an inch. Red hepatization of lower lobes of lungs, and extensive pleuritic adhesions. Cavity at the base of the right lung filled with about half an ounce of purulent-looking fluid. A similar cavity, but smaller, about an inch from the convex surface of the liver. An abscess in the left groin passed four or five inches downwards, in the sheath of the femoral vessels, and upwards into the pelvis, and communicated with the hip joint. Pus was infiltrated into the psoas and iliacus muscles.

The symptoms during life in the four following cases were similar to those in Case I., only differing in their more rapid course, and obviously depending rather on the secondary visceral inflammation than on the phlebitis, the small extent of which was rather remarkable.

Case II.—A labourer, aged 66, admitted October 16. Compound fracture of left leg, which was amputated above the knee on the same day.

He died October 27th.

Stump in a state of unhealthy suppuration, with partial sloughing. Sartorius and adductor muscles infiltrated with pus through their entire extent; femoral vein, for about two inches from the divided extremity, inflamed, and filled with pus; both lungs in a state of acute œdema, passing into pneumonia; liver and kidneys pale.

Case III.—A baker, aged 45, admitted

October 16th, with erysipelas of right arm, which was subsequently amputated.

Died November 10th.

An abscess was discovered in the right axilla; the right pectoral muscle was infiltrated with pus; a large collection of matter in the left thigh communicated with the cavity of the knee joint, the cartilages of which were partially eroded.

Pulmonary pleuræ of both sides, coated posteriorly with a thin layer of lymph. Both lungs were in a state of acute œdema, and solidified posteriorly, portions sinking in water.

Case IV.—A man, aged 42, admitted Oct. 4th. Compound fracture of left foot, and dislocation of hip on same side. Amputation performed above the ankle, and dislocation reduced the same day.

Died October 22nd.

Stump presented a sloughing appearance; round ligament of left hip ruptured, and capsular ligament much lacerated posteriorly; cavity of the joint filled with pus; lungs much congested, the posterior portion of both in a state of red hepatization, and containing nodules varying in size from a pea to a large nut, of a whitish albuminous substance, a little softened towards the centre. Both pleuræ, to an extent nearly corresponding to the solidified lung, were coated with a thin layer of recent lymph. Upper and posterior part of the liver much congested, and studded with deposits similar to those in the lungs. Vessels leading from the stump not examined.

Case V.—A man, aged 68, admitted Oct. 7th. Compound fracture of left leg.

Died November 4th.

A suppurating wound of left leg, exposing broken extremities of the bones. On sawing off about an inch from the fractured end of the tibia, numerous points of pus presented themselves in the cancellous structure of the bone; veins of the leg were carefully examined, but presented no traces of inflammation; lungs congested and œdematous; bronchial tubes inflamed. Towards the posterior surface of the base of right lung were patches of pneumonia, the centres of which were occupied in some places by whitish deposits, similar to those mentioned in the last case. Some of these changes were also perceptible to a less extent on the left side; pulmonary pleura of right side coated with a thin layer of recent lymph, and a similar effusion had taken place on the convex surface of the liver, in the substance of which viscus were deposits of the same character as those described in the last case.

In the 3rd and 4th cases no inflammation in the veins was actually discovered, its existence being inferred from the symptoms during life, and the resemblance of the pathological appearances to the most marked changes occurring in ascertained phlebitis. In Case II. (where the evidences of phlebitis were unequivocal) the inflammation of the lungs did not present the lobular characters usually considered essential to pneumonia from inflamed veins, and the viscera throughout were free from deposits, which, coupled with the difficulty sometimes experienced in discovering the phlebitis (as seen in case I.) from the small portion of veins affected, would indicate that phlebitis might be looked for after operations and injuries, followed by pneumonia, although that might present no peculiar characteristics.

As had been frequently noticed, during the occurrence of this disease, erysipelas prevailed throughout the neighbourhood.

SOUTH LONDON MEDICAL SOCIETY.

John Hilton, Esq., F.R.C.S., President, in the Chair.

December 27th, 1848.

A Case of Preternatural Labour.

Mr. Waterworth related a case of preternatural labour, which was as follows:—M. H. æt. 40, and unmarried, was delivered in 1831, at the full period of gestation, by craniotomy, owing to the great deformity of the pelvis, in consequence of which she was advised, should she again become pregnant, to be delivered at the 8th month. She, however, neglected that advice, and craniotomy was had recourse to in 1839. From that time nothing was heard of her until the 18th of November, 1848, when, in consequence of her being again pregnant, and in labour, medical aid was sought for, when she was found with a feeble pulse, and in an extreme state of prostration. On inquiry, it was ascertained that she was as far advanced as the 7th month of gestation, and on making an examination, the side was discovered to be presenting, and as there was evidently a spiculum of bone to be felt, it was naturally supposed to be a portion of fractured rib protruding through the skin. The woman being in a state of danger, it was thought advisable to deliver immediately, which was accomplished by turning. The child was dead, and the jagged surface of bone was seen to be the distal end of the humerus, the arm having been torn away about an inch above the elbow joint. On examining for the placenta, a coil of intestine presented itself, and being mistaken for the funis, was drawn into the vagina: it was, however, immediately returned, and as life was ebbing fast, nothing was prescribed excepting wine and opium. She denied all knowledge of how the injury to herself and child had happened.

19th.—In the same moribund state. To continue the wine, &c.

On the 20th, she was still surviving in the morning, when she confessed that she had attempted to deliver herself, and pointed out a box, where the arm was found. A few hours before death, she rose from her bed, and, in a state of delirium, trod upon her intestines, and tore off nearly a yard. At the *post*-mortem examination on the following day, it was found that the uterus was torn at the os, and only to a small extent, but the rent was joined to a laceration of the vagina, on the left side, laterally and downwards, through which the intestines were hanging, but there was no placenta discovered.

Dr. Hughes expressed a doubt of the woman having been able to have caused such mischief to herself and child, and thought there must have been a second party, as no statement from herself could be believed, especially as such affairs were rife even in our own neighbourhood.

Mr. B. Evans could not help rising to combat the opinion expressed by Dr. Hughes, that a woman could not produce premature labour, and the separation of an arm, in her own case, as he remembered two cases in his own practice, showing the possibility of a patient accomplishing all that was done in the case related by Mr. Waterworth: the first was that of a servant girl, æt. 30, who called on him to borrow a long catheter, and on being questioned as to what use it was required for, acknowledged she was about four months pregnant, and that she intended getting rid of it as she had done before, when she lived in the house of a medical man. On being remonstrated with, she abandoned her intention, and was delivered, at the full period, at the Southwark Lying-in Charity. The second was also a girl, 30 years of age, who came to him wishing to have something prescribed to make her regular, as she was certain she was not pregnant; but on examination he felt satisfied such was the case. Three weeks afterwards she became aware of her real condition, and was urgent to have something done to save her character. In about three weeks more, she again presented herself, but evidently had been delivered: she was very much reduced in size, was pale and anæmiated. On inquiry, she said that she had a fortnight before delivered herself of twins, that she had them in a basket, and that she wished to know what she could do with them. Being requested to state how she had accomplished her own delivery, she said that, having lifted a heavy weight, which induced severe labour pains, she found the feet of a child at the outlet, and drew it forth: she became faint with the effort, and thought it all over. But pains again returned, and after a while the arm of another protruded, and which she pulled forcibly until she delivered herself: she was at first greatly exhausted, but in a few hours recovered sufficiently to conceal all the appearances. Now these two cases induced him to believe that it was perfectly practicable for a woman not only to make great efforts to accomplish her own delivery, but also to induce premature labour: and in the case under discussion, it was very probable that after both her former labours the necessity of inducing premature labour was explained to her, and which she herself adopted with such disastrous results. He subsequently remarked, that as regarded the protrusion of the intestine, he once saw a case where the disc of the os uteri was separated by long-continued pressure, and presenting itself before the head, gave a sensation to the hand as of a loop of small intestine: she recovered, but had no more children. He also could not help hazarding a conjecture that this case might possibly have been one of placenta prævia, that the placenta might have been torn away; and this conjecture was favoured by the fact of the child being separated, there being no placenta, and her extreme state of exhaustion.

A few remarks were then made by the President as to the means adopted to return the intestine in laceration of the vagina or uterus, when the Society adjourned.

At the next Meeting, Mr. Waterworth will read a case of Idiopathic Tetanus.

WESTMINSTER MEDICAL SOCIETY.

Saturday, Jan. 6.

J. Webster, M.D., F.R.S., President.

Removal of the Os Calcis.

Mr. Hancock related the following case, in which he removed the os calcis from a patient suffering from caries of that bone, a proceeding which he believed had never been previously adopted; and although, from the causes detailed, the case did not terminate so favourably as could be desired, still the operation has succeeded in two instances, related by Mr. Greenhow, at the Newcastle and Gateshead Pathological Society, and was therefore worthy of consideration.

R. W——, aged 24, a butcher by trade, and of scrofulous diathesis, was admitted into the Charing-cross Hospital under my care on the 23d of May, 1848. He was suffering from caries of the os calcis of the right foot, with abscess: the bone was rough, but not loose. His other leg having been removed some two or three years before, for scrofulous disease of the knee-joint, Mr. Hancock was anxious to preserve as much of the remaining foot as possible, and accordingly decided, as the disease appeared to be limited to the os calcis, to confine his operation to the removal of that bone alone. Accordingly, on the 2d of June, the patient having been placed under the influence of chloroform, assisted by Mr. Avery and Mr. Canton, he removed the bone, by carrying a semilunar incision from the posterior angles of the inner malleolus across the sole of the foot, to the external malleolus, the convexity of the flap looking forwards. The flap thus made was carefully reflected, the tendo-achillis divided, and the knife being carried from behind forwards, between the astragalus and the os calcis, the latter was dissected out without any difficulty. Two or three vessels were tied, and the flap brought over; the edges were united by sutures and strapping. The patient went on extremely well until the 6th, when erysipelas came on, accompanied with severe constitutional disturbance. On the 9th, a considerable portion of the flap sloughed, and it eventually came away. On the 16th, but sufficient skin remained to cover the bones completely. He continued to improve until the middle of July, the external wound being almost healed, and the foot becoming firm and of good shape; but at this time he was again attacked with erysipelas; several abscesses formed in the limb, both in the foot, above and below the wound, and in the leg and ham; his strength gave way, he became very low and weak, and it was evident that there was very little probability of Mr. Hancock being able to save his limb; but being anxious to give him every chance, he determined to try the effect of the protein, so highly recommended by Mr. Tuson; and this was accordingly given in doses of fifteen, afterwards increased to twenty grains, thrice daily. For some time his general health improved, but the foot did not mend; and at length, as the constitutional symptoms returned, and further delay appeared dangerous, he removed the leg at about five inches below the knee, on the 6th of October, just four months after the former operation. Although the operation in this case did not answer his expectations, he was inclined to attribute the want of success to the state of the patient's constitution, and the attacks of erysipelas, rather than to other causes, and he was confirmed in this opinion by the success which had attended the two operations since performed by Mr. Greenhow, both of which were cases of accident, and not disease. It appeared to him (Mr. Hancock) that this plan was well worthy the consideration of the profession, and should be selected in patients of good constitution, or in accidents, where the mischief was confined to the os calcis, rather than those methods hitherto employed, as we thereby preserve the ankle-joint entire, a matter of considerable importance to the patient. In conclusion, he would correct an error into which Mr. Greenhow had inadvertently fallen in the relation of his two cases, in stating that "the operation had never been performed before he did it." Mr. Greenhow had the credit of the first successful case, but the dates of the several operations prove that he (Mr. Hancock) was the first to introduce the plan into the practice of surgery. His operation was performed on the 2d of June, above ten weeks before Mr. Greenhow's first, which took place on the 15th of August, whilst his second was performed on the 17th of October.

Mr. Harvey had met, some years since, with a fracture of the os calcis, in an old woman. She was removed to Charing-cross Hospital, and it was then contemplated to remove the broken bone. This proceeding, however, was not resorted to, and the patient eventually recovered, the bone uniting.

Tracheotomy for Obstruction of the Larynx.

Mr. Henry Smith related a case of obstruction of the larynx in which he had resorted to the operation of tracheotomy. The patient was an infant, 11 months of age. The little patient had suffered from chest affection several days; and three days before he saw it, symptoms of obstruction in the upper part of the air-passages presented themselves. When he was called, he found that interference was immediately called for, and at once proceeded to open the trachea. This he did in the usual way, with the loss of about an ounce and a half of blood. The operation lasted about a quarter of an hour, time being taken over it, as the little patient was very weak. The child lived six hours after the proceeding, and, on examination, the trachea was found healthy, the lungs being in some parts congested. The disease was confined to the pharynx and larynx, which had been inflamed and thickened, the epiglottis and glottis being involved in the mischief. The operation, though unsuccessful, was satisfactory.

Dr. Willshire thought that tracheotomy was more likely to be successful in cases of croup than in diphtherite.

Dr. Webster said that the operation had been frequently employed with success by Bretonneau in cases of diphtherite.

Dr. Sibson had observed a diagnostic mark of obstruction in the larynx, which he thought might be relied on. When such obstruction existed, there was not only a hissing noise, but the walls of the chest collapsed in inspiration,—the chest becoming, indeed, narrower and flatter, whilst expiration was longer and slower than inspiration. In diphtherite, where there was no obstruction beyond the tube, he saw no evil in tracheotomy. He thought, in this operation, one of the most important evils to be avoided was the entrance of blood into the air-passages, and this, he thought, was best prevented by the use of a trochar and canula, as invented by Mr. Hilton. In some cases the introduction of a male catheter through the glottis had been successful in preventing the necessity of operation.

Mr. Hird had in one case tried the trochar and canula in a child, but in consequence of the very moveable condition of the trachea, he was obliged to resort to the knife.

Fungoid Disease of the Bladder.

Mr. Nunn laid a bladder upon the table, in which these was a fungoid growth, about as big as a walnut, near the urethra. The patient was a man, forty-five years of age, and was admitted into the Middlesex Hospital for hæmorrhage from the bladder. This hæmorrhage amounted to six or eight ounces a day, and the man died in twenty days. There was no other symptom of disease whatever.

The discussion on Chloroform in Midwifery was resumed. The discussion was adjourned until this evening (13th). We shall give a short account of the entire debate when it is finished.

PARIS ACADEMY OF SCIENCES.

Sitting of January 9.

On the Effects of Cauterization in the Inoculation of Animal Poisons.

M. Parchappe addressed a communication to the Academy on the effects of cauterization in cases of poisonous and venomous inoculation. The experiments made by M. Renault, and communicated at a previous sitting of the Academy (vide Med. Gaz., No. 1100), on the absorption of virus, have established the fact that cauterization is shewn to be inefficacious in preventing the absorption of glanderous virus one hour after inoculation, and of scabby virus five minutes after inoculation. Fearing that these experiments might lead to a general inference that cauterization was ineffectual in other poisonous and venomous inoculations, M. Parchappe communicated a series of experiments made by him at a time when he paid considerable attention to the study of the different theories of absorption,—experiments which led him to establish the efficacy of cauterization in the treatment of poisonous and venomous inoculations, and to claim for it a greater value even than had previously been accorded to it.

Medical Intelligence.

THE CHOLERA IN HERTFORD GAOL.

It appears that the disease originated from a person committed three days before it broke out for a trifling offence. Thirteen cases of cholera and premonitory diarrhœa had occurred, but from the vigilant attention of the surgeon and officers of the gaol only four cases have hitherto proved fatal.

CHOLERA IN DERRY.

The *Derry Journal* announces that the cholera made its appearance in the workhouse. Only one case had there occurred, but it was a very decided, and, it is to be feared, will prove a fatal one, the patient being a young man of 22 years of age, who had been previously healthy, and in the house for 18 months. We have heard of two fatal cases having occurred yesterday in the suburbs on this side of the river, but all that we can confidently assert of them is that in each the disease terminated suddenly.

CHOLERA AT MANCHESTER.

We mentioned, some weeks ago, the occurrence in this city of a very severe case of English cholera, and of a case of Asiatic cholera, both of which terminated fatally. Both these cases, especially the latter, might be considered as imported. Within the last few days, however, we have had a case of Asiatic cholera, which has originated within our own city. The particulars thereof, as far as we have been able to ascertain them, are as follows:—Last Sunday week a woman named Monahan, aged 28, the wife of a factory overlooker, residing in Elizabeth Street, Oldham Road, was seized with diarrhœa, accompanied by vomiting and purging. She had been previously in good health; was, we understand, of temperate habits, and had not on the Sunday eaten or drank anything likely to cause derangement in the system. The vomiting and purging continued unabated, although two medical men had been called in, the patient of course gradually sinking; and on Thursday afternoon Dr. Eager, of St. Peter's Square, was sent for. He found her vomiting violently, with severe purging, rice-like evacuations, violent cramps, lividness of appearance, general coldness, and loss of elasticity in the skin. From these appearances he saw reason for believing, that even if the case were not already one of Asiatic cholera, it was likely to merge into one, and he therefore ordered the remedies appropriate in such a case to be administered, and, on leaving the patient, desired that he might be informed how she went on. On the following morning some of the woman's relations came to him and informed him that the woman was dead; and, of course, he did not repeat his visit. On his return, however, from the country, from visiting a patient at an advanced hour of the evening, he learned that another message had been sent to his house, that the woman was not dead. He therefore visited her again the following morning, when he found that the case was one of undoubted and severe Asiatic cholera. The patient had still the violent cramps and ricy evacuations, was pulseless at the extremities, complained much of constriction about the chest, and had alternate relaxations and rigidity of the muscular system. Dr. Eager accordingly directed strong remedies to be used, and again visited the patient in the course of the day, accompanied by Dr. Bell, whose opinion of the nature of the case he wished to have in confirmation of his own. Dr. Bell quite coincided in opinion with Dr. Eager, that the case was one of decided Asiatic cholera. The patient continued to sink gradually during Saturday, and died about 4 o'clock on Sunday morning. She was sensible up to the time of her death. No other case of cholera has been reported to the superintendent registrar of either the Manchester or Salford union.—*Manchester Guardian.*

THE CHOLERA AT MARGATE.

THE cholera, in its malignant form, has made its appearance at Margate, in the Invalid Pauper Establishment of Messrs. Perry and Co., situate in the Dane, at the outskirt of the town. It appears that 45 children from Drouet's Pauper Establishment, at Tooting, were conveyed by railway to that place on Saturday; and that on Monday the much-dreaded disease made its appearance, since which time all have had the premonitory symptom of diarrhœa, and seven well-marked cases of cholera have occurred, one of which has proved fatal. We have heard that Messrs. Perry and Co.'s establishment contains nearly 130 inmates, and that it is overcrowded; 20 children having been sent from Drouet's establishment beyond the number agreed upon.

THE CHOLERA AT BELFAST.

FOR the last few days there has been a sensible decrease, both in the number of new cases occurring in this town, and in the virulence of the epidemic itself. The cases remaining under treatment on Friday the 5th inst., were 15; since then, up to yesterday evening, an interval of three days, there have been but seven new cases, and two deaths; while there have been five recoveries, the cases still remaining under treatment being 16. The total number of cases which have occurred in Belfast since the first appearance of the disease has been 80; deaths, 31; recoveries, 33; remaining, 16. While we have reason to be thankful that this dreadful scourge is hitherto confined to such comparatively small limits, we cannot conceal from ourselves the fact that it is extending the area of its locality. Of the seven cases reported since the 5th inst., besides three which have occurred in the workhouse, there has been one case in Sandy Row, one in Tea Lane, one in Robert Street, and one in Stephen Street. We are not surprised that cholera should exhibit itself in these localities, which are notoriously the most filthy and generally unhealthy in the town.

By later intelligence it is announced that the disease is spreading widely among the poor.

THE CHOLERA AT BRESLAU.

THERE had been a sudden increase in the number of cholera cases at Breslau, the increase being in proportion to the intensity of the cold: 165 persons had died in the past week.

[According to some theorists, an intense cold tends to cause a subsidence of the disease.]

GREAT MORTALITY FROM THE CHOLERA IN RUSSIA DURING THE YEAR 1848.

IT appears from an official document published by Dr. Frettenbacher, physician of one of the hospitals at Moscow, that during a period of *seven months*—from April to November, 1848—the number of persons attacked by the malignant cholera in the Russian empire amounted to 1,643,282, and of this number no fewer than 650,720 died! This is sufficient to prove that the boasted advance of civilization has conferred no immunity on the nations of the nineteenth century. A whole population is just as easily and as rapidly decimated as in the middle ages.

THE NEW MEDICAL COMMISSIONER IN LUNACY.

THE Lord High Chancellor having appointed Samuel Gaskell, Esq. (Fellow of the Royal College of Surgeons, and lately the Superintendent of the Lancaster County Lunatic Asylum), to be a Commissioner in Lunacy, in the room of Dr. James Cowles Prichard, deceased, Mr. Gaskell was thereupon duly sworn in as Commissioner on the 9th of January instant, and on the 11th took his seat at the Board accordingly.

LIABILITY OF RAILWAY COMPANIES TO SURGEONS.

IN the important case of *Cox* v. *The Midland Railway Company*, in which Mr. Cox, of Birmingham, brought an action for the recovery of his fee for the performance of an amputation, rendered necessary by an accident, the judges have decided that the rule to enter a nonsuit should be made absolute. Hence the plaintiff not only loses his fee, but will have to pay heavy law expenses in addition. The case is of great importance to the profession, and we propose making some remarks upon it in the following number.

Selections from Journals.

PATHOLOGY.

ON THE SOUNDS OF THE HEART AS DIAGNOSTIC OF ANEURISM OF THE ARCH OF THE AORTA.

Dr. Bellingham has drawn the following practical conclusions from his researches on aneurism of the aorta:—

1st. That a double, not a single sound, characterises aneurism of the arch of the aorta, which closely resembles the double sound of the heart, and may be termed its *normal* sound.

2d. That the normal double sound of aneurism of the arch of the aorta has its cause in the friction between the blood and the lining membrane of the orifice and parietes of the sac, because there is no other agency to which it can be referred.

3d. That the normal second sound of aneurism of the arch of the aorta is caused by the regurgitation of the blood into the sac from the aorta and large vessels which arise from it.

4th. That the first, or the second, or both aneurismal sounds, may be replaced by a murmur, which may have either a blowing, sawing, or filing character; and that such murmurs may be regarded as the *abnormal* sounds of aneurism of the arch of the aorta.

5th. That the first aneurismal sound is much more frequently superseded by a murmur than the second, because the force with which the blood is transmitted to the sac by the left ventricle is much greater than that with which it regurgitates into the sac at the period of the ventricular diastole.

6th. That the abnormal sounds of aneurism of the arch of the aorta, equally as its normal sounds, are caused by friction between the blood and the orifice or parietes of the sac; and that they are nothing more than exaggerated normal sounds: exaggerated, because the degree of friction is then increased.

7th. That in aneurism of the arch of the aorta pointing externally, the sound is not only always double, but a double impulse is frequently also perceptible to the hand.

8th. That the second impulse of aneurism of the arch of the aorta has its cause in the same agency which gives rise to the second sound; consequently neither a double sound nor a double impulse is perceived in aneurism of the abdominal aorta, or of any of its branches.

9th. That the phenomenon known under the name of Frémissement Cataire, or purring tremor, whether it occurs in an aneurism or a large artery, is nothing more than the pulse of aortic regurgitation on a large scale; consequently that it is a sign of regurgitation into the ventricles of the heart, into an aneurismal sac, or into a large or a dilated artery.

10th. That the remarkable resemblance between the normal and abnormal sounds of aneurism of the arch of the aorta, and the normal and abnormal sounds of the heart, renders it probable that the mechanism of their production is the same.

11th. That the abnormal sounds of the heart, having their seat at the orifices of the ventricles, and being the result of increased friction between the blood and the parts through which it passes, are (like those of aneurism of the arch of the aorta) to be regarded as nothing more than exaggerated normal sounds.

12th. That the impulse of the healthy heart, like that of aneurism of the arch of the aorta pointing externally, is *double*, not single; and that in certain abnormal conditions of the heart, this second impulse becomes very distinct, when it has been termed "the back stroke of the heart," or "the diastolic impulse."

13th. That the second impulse of the heart (like that of aneurism of the arch of the aorta) is felt exactly at the period of the second sound; and both sound and impulse appear to be produced by the same agency.

14th. That as sounds almost precisely similar to those of the heart are developed in an aneurismal sac, which has neither muscular walls nor a valvular apparatus at its orifice, the latter do not appear to be so essential to the production of the normal sounds of the heart as most writers suppose.

15th. That the ordinary theory of the heart's sounds, which refers the normal sounds to one cause, and its abnormal sounds to a totally different cause, fails to explain several phenomena connected with the heart's action and sounds.

16th. That the theory of the mechanism of production of the heart's sounds, laid down in the preceding pages, satisfactorily explains every phenomenon connected with the normal and abnormal sounds of this organ.—*Dub. Med. Press*, June 28, 1848.

BOOKS & PERIODICALS RECEIVED DURING THE WEEK.

The London and Provincial Medical Directory, 1849.

System der Physiologie, von Carl Gustav Carus. 6tes Heft, Leipzig, 1848.

Chemical Manipulation and Analysis. By H. M. Noad.

British Record of Obstetric Medicine. No. 2, Jan. 15, 1849.

The Training Institutions for Nurses. By E. Sieveking, M.D. Pamphlet.

Directions for the Management of Cholera. By H. M'Cormac, M.D.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer	29·52
" " " Thermometer[a]	39·3
Self-registering do.[b] .... Max. 53·3	Min. 25·

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 0·48.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 3·2° above the monthly mean.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Jan. 13.

Births.		Deaths.		*Av. of 5 Win.*	
Males....	707	Males....	697	Males....	592
Females..	714	Females..	751	Females..	577
	1421		1448		1169

Causes of Death.		*Av. of 5 Win.*
All Causes	1448	1169
Specified Causes	1440	1164
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*..	407	221
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	58	54
3. Brain, Spinal Marrow, Nerves, and Senses	150	141
4. Heart and Bloodvessels	42	40
5. Lungs, and other Organs of Respiration	325	243
6. Stomach, Liver, and other Organs of Digestion	63	67
7. Diseases of the Kidneys, &c...	15	13
8. Childbirth, Diseases of the Uterus, &c.	12	9
9. Rheumatism, Diseases of the Bones, Joints, &c.	7	7
10. Skin, Cellular Tissue, &c.	2	1
11. Old Age....................	70	73
12. Sudden deaths	3	14
13. Violence, Privation, Cold, and Intemperance	26	37

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	21	Paralysis	20
Measles	9	Convulsions	42
Scarlatina	63	Bronchitis	154
Hooping-cough ..	68	Pneumonia	125
Diarrhœa	26	Phthisis	159
Cholera	94	Dis. of Lungs, &c..	14
Typhus	83	Teething	10
Dropsy	19	Dis. of Stomach, &c.	6
		" Liver, &c...	14
Hydrocephalus....	34		
Apoplexy..........	30	Childbirth	5

Remarks.—The total number of deaths was 279 above the weekly winter average.

NOTICES TO CORRESPONDENTS.

We are obliged to S. Y. for directing our attention to the subject, but we do not think the analogy is well established by a proper consideration of the facts. The motto, *nullius addicti jurare in verba magistri*, should be more frequently observed than it is. On a point of anatomy we should be inclined to take Mr. G.'s opinion; but in reference to the origin, nature, and diffusion of disease, we are not disposed to trust his judgment. According to him there is one most important difference between typhus fever and cholera. The former is admitted to be contagious, while the latter cannot be communicated "from man to man under any circumstances whatever"!

Mr. G. B. Childs.—Mr. Moyle informed us on the 10th December that he did *not* give permission to Mr. Childs to publish the information furnished; and the extracts from the letters (30th Nov.) forwarded to us by Mr. C. contain no such permission. Mr. Moyle stated that he wrote to Mr. Childs about the 10th December, plainly announcing that he had already sent his notes for publication (they had been forwarded to us on the 5th of December); and the injustice of which we think Mr. M. has great reason to complain, is—that *after* such an announcement, Mr. C. not only did not withdraw his paper from the *Medical Times*, although he had thirteen days' notice, but he did not even ask the editor to suspend its publication until *after* Mr. Moyle's original paper had appeared. The relative merits of the two papers, and even the admission of Mr. C.'s assumption, that, but for his queries, Mr. Moyle would not have published his observations at all, have nothing whatever to do with the charge of knowingly publishing without the consent of Mr. Moyle being asked and obtained. Such are the facts:—we cannot state them more concisely or more explicitly. If Mr. Childs can deny these facts (as alleged), he had better procure a public retractation of them from Mr. Moyle, who is our authority for the statement.

Various papers, which are in type, are still unavoidably postponed for want of space.

Received.—Mr. H. Smith.—Dr. W. G. Everett.

THE GENERAL INDEX.

We have to announce to our Subscribers that a General Index to the *first* 40 *Volumes* of the London Medical Gazette will, it is calculated, form a large Volume of about 700 pages. The cost of the Index Volume, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. Wilson and Ogilvy, 57, Skinner Street, will receive the Names of Subscribers.

Lectures.

LECTURES ON PRETERNATURAL AND COMPLEX PARTURITION.

By Edward W. Murphy, A.M. M.D.
Professor of Midwifery, University College, London.

Lecture VIII.

PUERPURAL CONVULSIONS.

Divided into sthenic, asthenic, and hysterical convulsions—Sthenic or hyperæmic convulsions—Premonitory symptoms—Symptoms attending the paroxysms—Symptoms of apoplexy—Distinction between epileptic and puerperal convulsions—Between apoplexy and puerperal convulsions—Asthenic or anæmic convulsions—Causes of convulsions—Remote or predisposing causes—Proximate or exciting cause—Conclusions.

Gentlemen,—*Convulsions* are the next subject for our consideration,—a most alarming and dangerous complication of labour: there is no attack to which the parturient woman is liable of so frightful an appearance, or that causes more terror to the by-standers; there is none in which the practitioner is more called upon to exercise a calm self-possession, or where he must be more careful not to suffer himself to be disconcerted by the dismay of anxious friends. An attack of puerperal convulsions may be considered as the climax of nervous irritation. You may observe from the first period of conception, throughout the whole of pregnancy to the time that labour has commenced, a succession of symptoms, which are the result of nervous sympathy (as it is commonly called) with the function of the uterus. The stomach and digestive organs, the brain, the heart, all give evidence of irritation caused by the phenomena going forward in the uterus. The spinal system of nerves is called into unusual activity, and hence we find that they are more easily excited, and more readily deranged in their actions during pregnancy and labour, than at any other period. The most extreme and dangerous result of this excitement is convulsions.

Puerperal convulsions may occur at any time during pregnancy; but their most frequent period is on the approach or during the progress of labour. They do not always present the same characters. On the contrary, an important difference may be observed in the symptoms they present. Sometimes these attacks assume all the characters of epilepsy, sometimes of hysteria. Cases present themselves where symptoms of apoplexy predominate, and give that character to the fit; and again we find that these paroxysms are the final symptoms of extreme hæmorrhage. A similar form of convulsions takes place when the action of the heart is at its maximum, and when it has almost ceased from loss of blood. Some writers describe puerperal convulsions as if every form were alike. Others enumerate its varieties, and speak of epileptic, apoplectic, anæmic, and hysterical convulsions. We shall propose for your consideration three forms—1st, Sthenic or hyperæmic convulsions; 2nd, Asthenic or anæmic convulsions; 3rd, Hysterical convulsions. These are essentially distinct in their characters and in their treatment.

Sthenic convulsions have been confounded with epilepsy, apoplexy, and even with hysteria; the same name has been applied to these opposite varieties, and hence much confusion has arisen both in the description and in the treatment of this dangerous attack. To remove this source of perplexity we shall first direct your attention to those convulsions that are clearly the consequence of labour, and then examine those varieties that depend upon the irritation of other organs than the uterus, or which depend upon certain conditions of the constitution.

Sthenic convulsions occur most frequently in patients who are of a plethoric habit, in whom the circulation is unusually active, and where we have every evidence that blood is in excess. In such instances the irritation of any organ that is largely supplied by the ganglionic nerves will cause convulsions when the spinal system is predisposed to irritation, in consequence of the newly excited function of the uterus. Thus a hearty meal, a sudden fright, a loaded state of the intestines, will cause an attack independently of labour. But when labour begins, when the action of the uterus is powerful, if it meet with much resistance to its efforts, and its action is impeded by uterine congestion, convulsions is frequently the result.

Premonitory symptoms often give timely warning of what is about to happen. Some women during their pregnancy are liable to headache, throbbing of the temples, giddiness, ringing in the ears, motes and flashes in the eyes: they are easily flushed, especially after a meal, and sometimes there is a puffiness about the face, an œdematous appearance, that is very suspicious. Again at the time of labour there is a peculiar restlessness about these patients: they are intolerant of their pains, and in the middle of a violent exclamation are perhaps seized with a paroxysm. A severe rigor in the progress of labour, especially in the second stage, has

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been remarked by the late Dr. Hamilton as a sure indication that convulsions were approaching. Puerperal convulsions may seize the patient either before, in the progress of labour, or after it has concluded. Those that occur before or in the commencement of labour generally depend upon the irritation of some other organ than the uterus, and hence are much more fatal than those which are the result of labour: you have in fact two sources of irritation acting upon the spinal system in place of one. Dr. R. Lee relates the case of a lady who "returned home after midnight from a large dinner party, at which she had partaken of a variety of dinners and wines, and had been seated before a large fire.*" Labour came on soon after, and with it violent convulsions. Another patient "being in the eighth month of her pregnancy, dined on curry and rice, and ate bacon and eggs at tea:"† the following day she had convulsions and premature labour. Both these were fatal cases, and in both the stomach was a primary, the uterus a secondary source of nervous irritation. Violent mental emotions act precisely in the same manner. More commonly, however, these are not the cases that induce the paroxysm; on the contraay, labour proceeds to a certain point without interruption: the action of the uterus is perhaps powerful, the head large, and the resistance to its advance great. A severe struggle arises, congestion takes place in the uterus, the pains are interrupted, a morbid irritability is excited in the uterus, which is communicated to the spinal centre, and thence reflected over all the muscles in violent convulsions. The uterus alone is the source of irritation here, and therefore the cause of the attack is more easily removed.

The symptoms that characterize the fit are very much the same as in epilepsy. For a moment the whole body is fixed, the face grows livid, the eyes are drawn upwards and outwards, the mouth is partly open and twisted, the nostrils are dilated, and respiration is suspended. This sudden change is instantly succeeded by a violent convulsion of the whole body; the countenance becomes frightful; the eyes blood-shot, at first staring widely open as if the person were being strangled, then the eye-balls are distorted, the pupils being sometimes drawn in opposite directions; in other cases the eye-ball seems as if it revolved rapidly on an axis: the eyelids also are thrown into a quick vibratory motion. Other features are equally deformed, the cheeks swollen and livid, the mouth retracted and covered with a bloody foam, the teeth violently clenched, and the tongue driven forcibly against, if not between them: a deep inspiration is succeeded by a number of rapid expirations, accompanied by a hissing sound that is very characteristic. The legs and arms are thrown about, and such a violent succussion of the whole body takes place that the bed and sometimes the room is shaken by it. This paroxysm lasts for two or three minutes, and when it subsides, the face, still bloated, regains somewhat of its former appearance; the eyes are drawn up beneath the lids, and the muscles of the body are released, although some twitchings of the mouth and face may still be observed: the patient then falls into a comatose state that may or may not be temporary. If she recovers herself she looks vacantly around her, seemingly unconscious of what has happended; nevertheless, she dreads the return of the pains much more than before, as if she were aware that there was some injury done to her by them, but she could not tell what it was. The action of the uterus is in no way suspended, but on the contrary rather increased: and hence a labour that from its protraction may have caused the convulsion, proceeds to its conclusion much more rapidly after the fit. The effect on the child is generally, although not always, fatal. There may be only a single paroxysm, or several, the fit returning without pain: when this is the case they may continue for some hours after delivery. It is right also to remind you that these paroxysms may be increased or diminished according to the manner in which the patient is treated. Under such circumstances as these the uterus is unusually irritable: a vaginal examination commonly induces a fit, and consequently much meddling in this way will certainly do mischief. The appearance of the urine also deserves attention. Dr. Lever and Dr. Simpsom have both directed the attention of the profession to its albuminous state, which, taken in connection with the œdematous condition of the surface, would indicate the existence of renal disease in many instances.

In this description we have confined your attention to puerperal convulsions when uncomplicated with any secondary attack; but this is not always the case. Apoplexy may supervene, and render the result much more dangerous. Women who are liable to such an attack are generally short, plethoric-looking persons, with florid complexions and short necks, just such as apoplectic patients are usually described to be; but this is sometimes otherwise. I have met with cases of a very opposite character, where symptoms of cerebral congestion very like apoplexy, followed convulsions. The majority, it is true, were such as we have mentioned; and in the lower walks of life especially I have seen cases of this kind among women with low foreheads, in whom the animal predominated over the intellectual development of the brain. These patients were violent in their tempers, addicted to the use of stimulants, very intolerant of their pains, and if labour were protracted, they were seized with convulsions, often accompanied by symptoms of apoplexy; but other women attacked in a manner precisely similar were delicate-looking persons exposed to privations, and had many causes of intense mental anxiety.

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* Lee's Clinical Midwifery, p. 17.

† Op. cit. p. 19.

Apoplectic symptoms modify the convulsive paroxysm. It is not so severe, at least in appearance, neither is the succussion quite so violent. There is less distortion of the features, but the lividity is greater and more permanent; the eyes are more fixed; the pupils are dilated or strongly contracted: they are not influenced by light; Dr. Ramsbotham has seen the pupil dilate on the approach of a candle: the mouth is drawn to one side; the countenance is bloated; respiration is deeply stertorous, and the cheeks are puffed out in expiration. During the interval between the fits, the patient is quite comatose: she lies snoring, insensible to everything around her: the action of the uterus nevertheless continues, but is scarcely noticed by the patient: the pains are only marked by her moaning in this heavy sleep, or being then particularly restless, just as if she were troubled by night-mare: the circulation about the head and neck is going forward with great force; all the arteries are throbbing, and the veins are quite distended; but while such is the case in the upper part of the body, the circulation is just as feeble in the lower extremities. Unless very active and well-directed treatment be adopted, the patient is seldom roused from this state: she continues in the same stertorous stupor, from which she never awakes; the uterus, however, is not in the least influenced by this condition of the nervous system; the pains return regularly, labour advances rather more rapidly, and, unless some unusual difficulty presents itself, may be completed without any assistance. Symptoms of cerebral congestion may also be observed in women who are anything but plethoric. Such cases are certainly rare, but still they sometimes present themselves.

Before we enter upon the question of treatment, it will be necessary to reflect a little upon the nature of these attacks, and to obtain, if possible, clear views both of the varieties that may be observed in the character of the convulsion, and in the constitution of the patient. Nothing, it appears to me, has caused more confusion in the rules of treatment that have been laid down than the practice of applying the same name and the same treatment to the different forms of convulsion that occur during labour; still more so in treating the same form on exactly the same principle in very opposite conditions of the constitution. No one errs by treating a well-marked case of hyperæmic convulsions and an extreme case of anæmic convulsions in the same way; but many may make the mistake of not distinguishing these opposite forms when anæmia is disguised by hyperæmic symptoms.

We shall therefore first consider the nature of puerperal convulsions; then endeavour to determine the causes that induce them; and, lastly, discuss the principles of treatment.

Puerperal convulsions, such as we have described them, have been generally considered epileptic;—such is the term applied to them by many authorities. Dr. Ramsbotham, however, believes them to be a modified form of apoplexy. "I look upon a case of puerperal convulsions to be, in fact, one of apoplexy, only that we have superadded to the common apoplectic phenomena violent spasmodic contractions; and this symptom is dependent upon the irritable and excitable state of the nervous system always in a greater or less degree accompanying pregnancy and parturition."* I confess that I cannot accede to either of these views; true puerperal convulsions seem to me sufficiently distinct from both one and the other to render it necessary not to confound them. It is quite true that epileptic convulsions may occur during labour, and apoplexy is often the consequence of puerperal convulsions; but the paroxysms of the attack we are describing may occur independently of either. It will be advisable, therefore, to direct our attention to this point, to compare these attacks with epileptic fits, and observe the points of resemblance or of difference between them: we may then examine the apoplectic character sometimes presented.

If our attention were confined solely to the physiological view of these convulsions, we must admit that epileptic and puerperal convulsions agree essentially in the manner in which all the voluntary muscles are affected: they agree also in their effect on the muscles of respiration; and we find that their influence on sensation, volition, and the mental faculties, are perfectly similar: we may therefore infer that the proximate cause exciting the convulsive movement is influenced in the same way, and is equally set in motion by the remoter causes of the attack; but these causes are by no means alike in their characters: there is a pathological difference between them which must make a very important ground of distinction when we have to consider the proper treatment to be pursued in order to arrest them.

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* Ramsbotham's Obstetric Medicine, p. 449.

Epileptic and puerperal convulsions differ in the way they are produced: they do not exactly agree in all their symptoms, and there is an important difference in their effect on the constitution of the patient. Epileptic fits occur in the most unexpected manner; there is no evidence of any exciting cause for the attack: the patient may have been perfectly well, at least apparently so, when suddenly a creeping sensation, *an aura* as it is called, is felt to commence at the extremities, and while it is passing upwards she gives a wild and peculiar scream, and falls into a fit. When it ceases, and she recovers from the temporary coma which succeeds, she is pretty nearly as well as before: she may have been bruised, or the tongue may have been cut; she feels fatigued or complains of headache, but that is all: she is able to pursue her ordinary occupations, and no immediate return of the fit may be expected. This is very different from the description we have given of puerperal convulsions that are generally preceded by symptoms indicating a highly excited state of the circulation that often terminate in the most marked symptoms of apoplexy, and that are so frequently fatal. In puerperal convulsions, if no means, or, what is the same thing, if inefficient means be employed to arrest the paroxysms, a fatal result is the consequence. In epilepsy there is no such danger: wounds, bruises, or burns, are the worst you need apprehend.

In order to render this comparison clearer, we shall place the characters of each side by side: first those that agree, then those that differ.

Epilepsy agrees with	*Puerperal convulsions*
1. Violent convulsions of the voluntary and respiratory muscles.	1. Violent convulsions of the voluntary and respiratory muscles.
2. Total loss of consciousness.	2. Total loss of consciousness.
3. Lividity of features from apnœa.	3. Lividity of features from apnœa.
4. Followed by temporary coma.	4. Followed by coma that may be temporary.

They differ from each other in the following characters:—

1. An aura precedes the attack.	1. Symptoms of cerebral congestion precede the attack.
2. There is no hissing expiration.	2. Hissing expiration very characteristic.
3. Fits return periodically at long intervals.	3. Fits return in rapid succession.
4. The paroxysms are seldom fatal.	4. The paroxysms are often fatal.
5. Epileptics usually give evidence of some pre-existing constitutional derangement.	5. The healthiest women are often attacked.

From this parallel you will perceive that epileptic and puerperal convulsions nearly agree in the form of attack, but differ in the manner of their incursion, and in the ultimate course that they take. If, therefore, you confine your attention solely to a physiological view of the subject, they agree in nearly every particular; but if you look a little farther, and consider carefully the whole of the symptoms, both before and during a paroxysm of puerperal convulsions; if you take into account the previous health of the patient, and the extreme danger of a fatal termination to a number of paroxysms succeeding each other at short intervals, you will perceive an obvious difference between them. When these convulsions so nearly agree in their physiological characters, it may seem to you something very like "splitting hairs" to make a distinction between them: the term "epileptic" (you will say) applies to puerperal convulsions equally well as to the paroxysms of epilepsy. I cannot think so; I should willingly call puerperal convulsions "epileptic," only if I did so, if I did not point out the essential difference in their pathological aspect, you might imagine that, being similar diseases, they required a similar treatment. If the excellent suggestion of Dr. Marshall Hall were adopted, if the term "epileptic" were discarded, and some generic term applied to embrace convulsions having certain physiological characters in common, there would not be this difficulty; but as terms are at present used, inasmuch as puerpural convulsions are, in their treatment, essentially distinct from epilepsy, I am desirous that you should separate each convulsion as far apart in your mind as possible; and, therefore, to assist you, we shall call them by a different name: the terms "sthenic" and "hyperæmic" appear to me to convey the essential character of the convulsions we are now discussing.

Dr. F. H. Ramsbotham, who seems fully aware of this blunder, and who is equally anxious that the profession should avoid it, describes puerperal convulsions as being a form of apoplexy, not only for the purpose of drawing them away from their notions about epilepsy, but also with the object of guiding them into a more correct idea of the proper treatment of these attacks: in a practical point of view, therefore, any mistake is on the right side; but still I think these hyperæmic convulsions differ essentially from apoplexy: they may occur, and no apoplectic symptoms take place; and it very seldom happens that in post-mortem inspections of the brain there is any appearance of effusion: unusual distension of the veins is the only morbid change common to both, and even this may be absent in puerperal convulsions.

Dr. Marshall Hall, in a valuable memoir on the theory of epilepsy,* proposes some very important questions with regard to puerperal convulsions:—"Does it lead to subsequent attacks of epilepsy? Do previous attacks of epilepsy predispose to puerperal convulsions? Are there sphagiasmus, laryngismus, or odaxismus?" To the two first queries, I should answer in the negative. I cannot recollect having ever seen a case of epilepsy the result of a previous attack of puerperal convulsions, that attack being clearly the result of labour. With regard to the second question, I am aware that cases are recorded by Dr. R. Lee and others in which epileptic patients were attacked with puerperal convulsions, and where epilepsy might be looked upon as a predisposing cause, but I have met with some instances of pregnancy in epileptic patients, with whom I naturally dreaded an attack of convulsions at the time of labour, but, to my surprise, none took place. I am happy to find myself supported in this view by the experience of Drs. Hardy and M'Clintock, who state—"It does not appear that females who are subject to epileptic fits are more liable on that account to attacks of puerperal convulsions. On the contrary, it would seem that they enjoy an exemption, and that even the epileptic attacks occur with less frequency, and with a mitigated severity, during pregnancy. This certainly was the case in three or four instances of pregnant epileptic females who came under our notice."†

The conclusions that these facts indicate, prove still further the necessity of distinguishing the convulsions we have described from epilepsy.

The answer to Dr. M. Hall's third query, however, must be in the affirmative. In the paroxysm of puerperal convulsions, you have very clear evidence of interruption to the venous circulation of the head and neck (sphagiasmus). I think there is, also, spasm of the glottis (laryngismus), but its effect is often disguised by that peculiar spasm of the tongue that produces hissing expiration. I have never heard that shrill scream so remarkable in epilepsy: you have, also, frequently a very disagreeable proof that the tongue is forcibly protruded at the same moment that the maxillæ are convulsively closed, or "odaxismus."

Asthenic or anæmic convulsions is a striking contrast to the preceding form. It is the final symptom in extreme hæmorrhage; in this instance clearly arising from a total deficiency of blood to support the vital functions. Do not, however, confine yourself to this example alone; there are cases occasionally met with in which the same effect seems to be induced by a deficiency of *nutrient* blood in the system: instances where poverty and privations seem to be the predisposing causes of these attacks, especially when accompanied, as is often the case, by great mental anxiety. The combination of so many causes of depression of the vital powers have the same effect in producing convulsions as extreme hæmorrhage: hence we have called them "asthenic" convulsions, to imply that they are the result of debility. This variety is not caused by the violent action of an over-excited uterus; these paroxysms are not the result of severe labour, but of constitutional exhaustion. They often take place, therefore, before labour, or when it has only commenced, and are too frequently fatal. We shall reserve its consideration until we enter upon the question of treatment.

The causes of puerperal convulsions may be considered in two points of view: the remote and predisposing cause, and the proximate or exciting cause. They have been also classed as "centric" and "eccentric" causes: the former being those that act directly on the nervous centres, the latter such as operate indirectly upon them, through the irritation of some distant organ. Loss of blood, for instance, or its excess, or impure blood, are considered "centric" causes of convulsions, because they are supposed to act directly on the nervous centres; while irritation of the stomach, intestines, bladder, or uterus, are eccentric causes, the nerves of the affected organ communicating the irritation to the spinal system, which reflects it in violent convulsive paroxysms.

The predisposing causes of convulsions are hyperæmia, anæmia, or what, if I wished to indulge in new terms, I might call cacoæmia,—an excess of blood, a loss of blood, or an impure blood.

When blood is in excess, and the circulation is excited, an irritation that at another time would have no effect, may under such circumstances cause convulsions. An indigestible meal, for instance, excess in spirituous potations, worms in the intestines, have brought on an attack; so, also, in such habits the action of the uterus, especially when powerful, has induced convulsions.

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* *Lancet*, Oct. 30, 1847, p. 467.

† Drs. Hardy and M'Clintock on Midwifery, &c. p. 269.

When blood is deficient, as in cases of extreme hæmorrhage, the same effect is produced, sometimes without any direct irritation; but if the uterus be exposed to any new excitant, as the introduction of the hand to turn the child, or to remove the placenta, convulsions are frequently the consequence.

When blood is impure, convulsions will also take place. We know that the disease of the kidney, which deprives the blood of its albumen, and leaves its urea, sometimes causes convulsions, independently of parturition. Professor Simpson has quoted cases which prove that albuminuria is also a predisposing cause of puerperal convulsions. I think to this division we might also refer cases of a more obscure character, in which the impurity of the blood is not capable of such clear demonstration: I allude to those instances where poverty, privations, bad food, imperfect digestion, combine to produce a depraved condition of the blood.

Certain functional or organic derangements of the nervous system, as in epilepsy, may predispose to these attacks; but when they do so, they must be considered as accidental: their presence or their absence is altogether independent of the existence of pregnancy or parturition. It is natural to suppose that the constitution is more exposed to suffer from such a cause at this particular time; nevertheless, I very much doubt that such is the case: the predisposition to epilepsy does not seem to cause convulsions during labour. We have given you some evidence that epileptics may have immunity from these attacks at the time of labour.

The proximate cause of convulsions, that which immediately excites the paroxysms, is more difficult to expose, because it is wrapped in the mysteries of the nervous system. I am unwilling to occupy your attention with the discussion of some of these questions which stand so conspicuously on the field of controversy, like standards, as it were, to challenge disputation. It shall be my object rather to place the subject before you in such a manner as will enable me to explain to you more clearly the correct principles of treatment.

Let us reflect a moment on what takes place during a paroxysm. If direct mechanical irritation be applied to the medulla oblongata, precisely the same convulsive action is excited as in puerperal convulsions: we infer from this that the proximate cause of these convulsions is some irritant of the medulla. What is the irritant? Some consider pressure of the blood as the proximate cause; but this can hardly be the stimulus that excites these phenomena, because precisely the same effect is produced when the pressure is altogether removed. Pressure on the brain may cause stupor, coma, paralysis, but it is not clear that *per se* it causes convulsions. Nervous sympathy is the cause assigned by others: as a general expression this is correct, but it is rather too vague a term to attach to it a sufficiently precise meaning. The influence of the gravid uterus on other organs—the sympathies of pregnancy—are often the best evidences of health; but the irritation we now speak of is a morbid action that takes place only under special conditions: we shall not therefore adopt a term that may create confusion in our idea of a proximate cause. We have sufficient proof that morbid excitation of the peripheral nerves that supply any organ will cause convulsions: this we can only explain by assuming that the irritation is conveyed directly to the spinal centre, whose excito-motor influence communicates it to the muscles generally. In this sense, irritation of the brain from shock—of the stomach from repletion—of the intestines from scybalæ or worms, may excite convulsions. It only remains for us to consider whether in puerperal convulsions the uterus is in a state of morbid irritation, and is therefore in a similar manner an excitant. If this be true, if we are able to refer puerperal convulsions to morbid irritation of the organic nerves, whether existing in the brain, stomach, bowels or uterus, to these eccentric causes, it would be clearly illogical to seek for two causes to explain one and the same effect. If we are satisfied that this irritation of afferent nerves exists, and we believe that it is communicated directly to the medulla oblongata, we need not go farther and puzzle ourselves in explaining why an excess of blood in one case, its deficiency in another, and its impurity in a third, are also irritants of this nervous centre.

Taking, then, this view of the question, let us inquire—Have we adequate proof that morbid irritation of the uterus will induce convulsions? and if so, What renders the uterus morbidly irritable? In answer to the first question, I shall quote the experience of Dr. F. H. Ramsbotham, who says: "I have met with three or four cases which have strongly impressed me with the idea advanced in the text" (viz. that the affection originates in some deranged state of the uterus, and the irritation is propagated from that organ to the brain), "the most striking of which is the following:—I was called some years ago, by one of the midwives of the Royal Maternity Charity, to the assistance of a woman under puerperal convulsions: by free depletion the convulsions entirely ceased, and in a few hours perfect consciousness returned: about fifty hours after the attack, active labour came on, and in less than five hours more the child was born dead; the placenta did not descend, and in two hours subsequent to the expulsion of the child, I was summoned: I found her perfectly sensible, in good spirits, and she made no complaint. There had been no hæmorrhage, the uterus was not strongly contracted, and the placenta entirely within it. Under no greater anxiety than I usually feel when the placenta is retained, I proceeded in the ordinary way to remove it. The moment I had passed my hand completely in the uterine cavity, the patient turned upon her abdomen, and without uttering any expression of pain, went into a convulsion, though not of a violent kind: intense coma supervened, which yielded to no treatment that I could devise, and terminated fatally in about two hours from the removal of the placenta. The vagina, and especially the inner surface of the uterus, communicated to the hand a more pungent sense of heat than I recollect to have experienced on any other occasion."* Dr. Ramsbotham then quotes, from the late Dr. Ingleby's work on uterine hæmorrhage, another instance of a similar kind. "A highly esteemed friend of mine (Dr. I.) once found it necessary to pass the hand into the uterus for the purpose of removing an adherent placenta, the ergot of rye having been previously administered: the introduction was carefully performed, the straining and opposition on the part of the woman were exceedingly great; and at the moment when the operator's hand had reached the organ, my own hand, making counter-pressure on the abdomen, the patient became violently convulsed, and died in less than a minute."†

A case very similar to this once occurred to myself. The patient had a very severe attack of hæmorrhage after the delivery of the child, and before the expulsion of the placenta, which induced me to remove it. I did so, without any difficulty; but, like Dr. Ingleby's patient, mine resisted the operation. In the struggle, however, she was seized with convulsions, and died in a quarter of an hour. Such cases are not, I am persuaded, rare exceptions to the general rule, and they form so many proofs that convulsions are produced by irritation of the uterine nerves. We find, also, that when the uterus is emptied of its blood, or is too full of blood, the same effect is produced.

It remains for us to inquire what renders the uterus thus morbidly irritable. This second question will require a little patient attention. We know that in cases of protracted or severe labour, the large head of a male child, forcing open for the first time the passages, is in itself a very powerful irritant, not only of the uterus, but, as Dr. Tyler Smith justly observes, of the vagina, thus causing "extensive reflex muscular actions;" but it appears to me that this alone is not an adequate cause: if it were so, the number of cases of puerperal convulsions would approximate much nearer to that of difficult labour than they appear to do. Dr. Collins reports 430 cases of protracted labours—only 30 cases of convulsions. Drs. Hardy and M'Clintock mention 259 cases of tedious and difficult labours, and but 13 cases of convulsions. I quote from these reports, because I know that severe labour was a very frequent cause of puerperal convulsions in the Dublin Lying-in Hospital. The operation of some other excitant, besides undue distension of the passages, seems to me necessary to explain this effect. The condition of the circulation, and its influence upon the nervous system, are important elements in the inquiry. The intimate relation that subsists between the nervous and circulating system is a matter of every-day observation: the nervous function cannot be deranged without the circulation being excited; neither can the equilibrium of the circulation be destroyed, without the nerves, in one way or another, giving evidence of irritation. Let us, then, examine, whether in cases of convulsions there is such a disturbance of the circulation in the uterus as would warrant us in attributing to it a morbid excitation of its nerves, and consequently a corresponding irritation of the medulla, so as to cause convulsions. Nothing seems to me more evident. If we except those cases that are referable to the irritation of other organs—as the brain, the stomach, the kidney, the intestines, we find that the majority of cases occur when there is either an excess or a deficiency of blood in the uterus. When the uterus is nearly deprived of its blood, we have seen that the introduction, ever so gently, of the hand, will cause convulsions, and sometimes they take place without this irritation. Congestion of the uterus appears to have just the same effect. In the majority of cases, there is every evidence of plethora: the premonitory symptoms are those of an over-excited circulation; the action of the uterus is impeded by the excess of blood circulating through it; the pains do not, therefore, produce their full effects; at length nervous irritation is excited, and convulsions take place. You perceive, then, that it is not alone the irritation of the cervix of the uterus or vagina distended by the large head of a male child, that will induce convulsions in cases of difficult labour; but this irritation, accompanied by an excess of blood in the uterus, just as the introduction of the hand produces the same effect when there is a deficiency of this vital fluid. You

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[*] Ramsbotham's Obstetric Medicine, p. 568-9.
[†] Ingleby on Hæmorrhage, p. 186.

may recognize the difference, if you observe closely cases of difficult labour. In one example, you will notice a protracted pressure on the cervix uteri, on the vagina and perineum, causing local congestion, tenderness, inflammation, &c., but no convulsions. In another, you may observe every symptom of hyperæmia of the uterus: its contractions become short and interrupted,—I might add, unusually painful: the efforts of the uterus are thus for some time fruitlessly continued, and at length are superseded by the convulsive paroxysm.

If, then, we admit that irritation of the organic nerves of the uterus is frequently the proximate cause of convulsions, and that this irritation is produced by an excess of blood in the uterus, we should not confound cause and effect: we should not mistake for a cause, the congestion which the commencing proxysm always produces at the nervous centres. The convulsive fit has the effect of interrupting the circulation in every way—first, as Dr. Marshall Hall has clearly shown, by the direct pressure of the platysma-myoides on the blood returning from the brain. Secondly, by the spasm of the glottis impeding respiration, and preventing the passage of venous blood into the lungs. Thirdly, by the pressure on the venous circulation of the extremities, the blood, by the spasmodic contractions of all the voluntary muscles, being forced too rapidly forward into the great central trunks; and lastly, the increased pressure on the venous circulation in the uterus, in consequence of its more powerful contractions producing a similar effect. It is not surprising, therefore, that with such an accumulation on the venous side of the circulation, we should find every proof of pressure on the brain, and symptoms of apoplexy; neither is it unintelligible why the post-mortem appearances seldom prove more than venous congestion. You can also perceive, in the highly congested state of the kidney, the cause of the albuminous urine to which Dr. Lever has so ably directed the attention of the profession. This is the effect, not the cause, of the convulsive paroxysm, and should therefore not be confounded with cases where albuminuria, as a disease, acts as a predisposing cause. In the latter case, albuminous urine will be present so long as the morbid condition of the kidney remains: in the former, it accompanies the convulsion, and disappears when they cease.

We have seen that the irritation of other organs excites convulsions in the same manner as the uterus, and may stimulate the uterus into action. This also constitutes a case of puerperal convulsions: but, in this instance, labour is the effect, not the cause of the attack: hence convulsions generally precede labour, or both come on simultaneously. There is a striking difference also between these convulsions, and those the effect of labour, in the danger of the attack. The paroxysms excited by severe labour may be controlled by relieving the condition of the uterus that excites them. Those that depend upon the irritation of other organs are not so amenable to treatment, because the cause of the irritation may not be so easily removed; and, even where it is so, as in the stomach or bowels, still the induction of labour maintains the effect on the nervous centres. In the former case you have only one source of irritation to deal with; in the latter there are two. Hence, when puerpural convulsions are the result of mental shock, of repletion, of disease of the kidney, and such-like causes, they are much more fatal.

As we have been drawn into rather a protracted discussion of these difficult questions, we shall briefly sum up the conclusions at which we have arrived—

1st. Puerperal convulsions should not be confounded with epilepsy, nor with apoplexy. They agree with the epileptic attack in their physiological, but not in their pathological characters. Apoplexy is an effect of the paroxysms, which may or may not follow from them.

2nd. The predisposing causes of puerpural convulsions, are either an excess of blood (hyperæmia), a deficiency of blood (anæmia), or impure blood.

3rd. The proximate causes of convulsions are chiefly eccentric causes, being the morbid irritation of the afferent nerves supplying the different vital organs.

4th. *Morbid irritation of the uterus* is the most common proximate cause of puerperal convulsions, the result either of hyperæmia or anæmia. Hence the division into sthenic or hyperæmic convulsions, and asthenic or anæmic convulsions. Under the latter head we include not merely loss of blood, but poverty of blood, and impure blood, because the effect seems to be similar, only differing in degree.

5th. *Morbid irritation of other organs* also causes puerperal convulsions, because, during pregnancy, and at the time of labour, the nervous system is more excitable than at any other time: and hence any organ may easily be rendered morbidly irritable. Puerperal convulsions so caused are much more fatal than the former, because the nervous centre is exposed to a two-fold source of irritation—the organ primarily affected, and the uterus that is secondarily excited.

6th. In the whole of these phenomena we must perceive a beautiful illustration of the reflex nervous function; the peripheral nerves that supply the affected organ rapidly communicating their irritation to the spinal system, which, as an excito-motor centre, radiates the irritation over the whole of the voluntary muscles, and the muscles of respiration, in violent convulsive paroxysms. Even the involuntary muscles, as the uterus and heart, do not escape, but give every evidence of greatly increased muscular contractions.

Original Communications.

ON THE QUESTION OF
CONTAGION IN CHOLERA.

BY DANIEL NOBLE.

(Read before the Manchester Medical Society, Dec. 6, 1848.)

BEFORE proceeding to the particular subject of this paper, it will be well to fix definitively the meaning which I attach to the term "contagion," because it is often employed without any very exact signification; and controversies sometimes spring up about *words*, where there is little or no difference of opinion concerning *things*.

The term contagion, according to the *usus loquendi* of the present day, has a somewhat wider application than its mere etymology would imply. Some diseases spread by direct *contact* of individuals affected, and are thus *contagious;* but then others do the same thing, wherein actual contact is unnecessary. For the communication of syphilis and the vaccine-pox, there is contagion in the former sense; but in measles and small-pox, the contagion may not be immediate: whether, however, the morbific virus pass from one person to another mediately or immediately, the disease induced is rightly enough referred to contagion.

Diseases of a specific type, communicable from man to man, are excited by absorption into the system of a poison which, in determining its proper morbid phenomena, fructifies and increases, in some such way as the leaven of yeast becomes reproduced and multiplied when mixed with appropriate ingredients. In certain instances the poison is demonstrable and obvious to the senses, as in syphilis and scabies; in others, however, its existence becomes revealed only by the effects, which effects receive their just interpretation in great part from analogy.

Now, on examination of the question of contagion in cholera, we must, in like manner, settle in our minds distinctly what we mean. If the inquiry be, whether direct intercourse with a patient in an aggravated stage of cholera be requisite for taking the disease, I answer, certainly not; or if be, whether individuals may freely attend upon cholera patients and escape infection, I reply, that assuredly they can do so; but these circumstances will not decide the question at issue. It may be perfectly true that, in the words of a writer in a recent number of the *British and Foreign Medico-Chirurgical Review*, "the doctrine which supposes that there *must be* contact or proximity between man and man, in order that the morbid poison may pass from one to the other, cannot explain the phenomena of the diffusion of cholera:" and yet cholera may be strictly and essentially a contagious disease.

The following questions here present themselves:—Does cholera depend mainly upon certain *conditions of the atmosphere*, like autumnal diarrhœa? or are its phenomena attributable to a *specific virus*, such as obtains in measles or small-pox? And if, as in the latter, there be such a *materies morbi*, where, in its epidemic process, is its source of increase and multiplication? Does the poison consist, chiefly at least, in some deleterious principle that is reproduced and diffused independently of human beings? or is it an emanation from the bodies of persons already affected?

After much thought bestowed upon the facts of the case, I have come myself to the conviction that cholera *is* contagious, and that its diffusion is brought about by multiplication of the poison in the living body. As the evidence stands, however, direct and immediate communication with notoriously infected persons would not always seem to be necessary for taking the disease. If, indeed, cholera be analogous to other contagious maladies, its virus may float in the atmosphere, or lurk in *fomites*, and thus mediately influence individuals. Again, the milder forms of measles and scarlatina may convey to individuals highly predisposed the more malignant diseases: hence if, as is now most generally admitted, cholera be really and truly cholera, even in cases where, from a low degree of predisposition, it may go little beyond a mere diarrhœa, individuals at times may be expected to infect others without its being observed. A careful examination of the several circumstances characterizing the progress of the disease in question will, I think, render these propositions at least highly probable to the unbiassed inquirer.

That cholera is attributable to no atmospheric condition of an *appreciable* character, is certain enough: in every variety of weather—in all recognised meteorological states — it has been known to prevail. It has been attempted to connect the visitation with the presence of undue heat and humidity; but, however favourable these atmospheric conditions may in some circumstances be to its spread, a very slight attention to the history of the ailment will suffice to confute this idea. It appears tolerably certain that the heat of summer is more favourable than winter's cold to an epidemic prevalence of the disease; but great heat is clearly not requisite for its production. Although the late summer has been of lower temperature than the average of summers, the malady has broken out in many parts of northern Europe after an absence of many years, including the tropical one of 1846. But it is unnecessary to dwell upon this point.

Whether we admit or reject the doctrine of contagion in cholera, its development must be allowed to depend upon the presence of a specific virus, whatsoever be the source of this latter. The generic identity of the symptoms, and their co-ordination, in almost all countries and climates, and in every variety of individual constitution, render this conclusion inevitable: everywhere the rice-water evacuations and the excessive prostration of strength have constituted special features in the disease; everywhere the more malignant instances have resulted fatally in the course of a few hours. The physiognomical characters of cholera are everywhere observed to be the same, with a peculiar shrunken, cold, and bluish state of the skin; everywhere the sibilant voice, the suppression of urine, the laborious congestion of the heart and large vessels, are noticed in the severer cases: all these circumstances do but admit of rational explanation by referring them to the influence of a poison everywhere identical.

Sanitary reformers, in many instances unaided by a medical education and a medical experience, seem, in their well-meant zeal, to regard imperfect drainage, open sewers, and stagnant air, as adequate in themselves to the production of almost every pestilential malady: it is, however, quite sure that such conditions will not, in the absence of a superadded virus, produce cholera. The things so much insisted upon have always existed as causes of disease in many parts of all our large towns; but cholera has not, in correspondence with the notion in question, been the constant effect,—a fact which of itself ought to be sufficient for the confutation of the ultra-sanitary theory.

If the poison which first, in its effects, became manifest in Jessore, in 1817, found its conditions of increase in the earth or in the air, so as in this way to become subsequently diffused throughout the greater part of the world, its history and progress would, I conceive, have exhibited a much greater regularity than they appear to have done. It is quite reasonable to suppose that the morbific agent would have advanced in its course with some steadiness as to time, and uniformity as to tract of country; such, at least, is the case with epidemic influenza, supposed, with good reason, to result from an atmospheric poison. But the remarkable fact about cholera is that, like small-pox and other such diseases, it has always traversed the great routes of human communication,—whether these have been by land or by water; and it is very striking, moreover, that the rapidity of its progress from place to place has generally corresponded with the extent and the velocity of this communication. During the first ten years of its existence, it spread throughout a considerable portion of Asia, mostly in an eastern direction; making its way, like the caravans and other Asiatic modes of travel, with comparative slowness from country to country. Its progress westward was not remarkable till about 1821, when it raged in Arabia, and about the Persian Gulf. In 1829, it fairly invaded the Russian territory; the more rapid in its spread as it advanced towards western Europe, just as communication becomes more prevalent. See how slowly it makes its way from Jessore to the east of Europe,—twelve years, from 1817 to 1829; but it has diffused itself throughout Russia by 1831—in two years: once in the western division of this empire, a very short time brings it to Poland and Germany; and in a very few months from its irruption in St. Petersburg, it lands on our shores, in October 1831—imported obviously from Hamburgh. How observably does its progress quicken among nations freely communicating one with the other! By the spring of 1832, the disease had gained most of our sea-port towns. What happens? Why, in spite of geographical distance, and the purifying influence of the intervening Atlantic, it was very soon in America; and, first of all, in the very towns having the freest intercourse with infected England: in the summer of 1832, it was in New York, Montreal, and Quebec; and, in some instances, its importation was distinctly traced to the arrival of emigrant and other vessels, just like the epidemic fever of last year. See how the march of cholera becomes expedited exactly as it attains regions of increasing intercommunication! It was years in gaining the borders of European Russia; when there, however, it advances to the western frontier in little more than twelve months: hereupon it diffuses itself so rapidly as within another year to have reached nearly all the countries of Europe; whence, in a very brief period, it attains the opposite hemisphere of the globe, commencing precisely in those places trading most systematically with our own sea-ports. This course resembles and corresponds very much with that of other diseases which, by common consent, are allowed to have spread throughout the world by contagion: but it is not like what obtains in purely atmospheric epidemics. Take the recent experience we have had of the epidemics of maculated fever, and of influenza. Last year, the former was first in Liverpool among the towns of England—unequivocally imported from Ireland; its extension from which place was notably in a ratio with facilities of locomotion therefrom: and, altogether, it was observed to diffuse itself very correspondently with the degree of vagrant intercourse (so to speak) between infected places. Nothing of the kind, however, was remarked in the case of epidemic influenza, which exhibited itself at the close of the year: it overspread large regions of the earth almost simultaneously, bringing a very large proportion of individuals at one time beneath its sway; it was not traceable from town to town, from one locality to another, agreeably in any way with intercommunication of human beings, or with degree of commercial intercourse. How stands the case with cholera? Upon this subject, the experience of 1831-2, and that of the present time, hold the same story. A few instances at first only occur, and usually but in one or two parts of a town; in a few weeks, however, the disease becomes epidemic; whilst, at the same time, neighbourhoods holding but little intercourse with infected localities sometimes entirely escape. In 1832, the earlier cases of cholera occurred here, in Manchester, in May: for three or four weeks the multiplication went on in but one or two districts; it was several weeks from its appearance in Manchester that a case was reported in Salford; and not till August did the disease become fairly epidemic. These facts are quite inexplicable on the atmospheric theory, being in no way analogous to the development of autumnal diarrhœa—the old *cholera morbus*, nor to that of influenza; yet they are perfectly parallel with our experience of maculated fever, measles, or small-pox.

The advance of cholera westward during the present year has greatly resembled that of 1831; it seems on the present occasion, however, to have progressed with somewhat greater rapidity, correspondently, so far, with increased facilities of travel, and the greater freedom of commercial intercourse. Many persons seem to think that its progress in this country is slower at this time than when introduced in 1831; this, however, is a mistake: at the latter period the first cases, imported from Hamburgh, were in Sunderland about the end of October, and it was not till February of the following year that London became infected, and for several months its extension was in a great degree limited to the vicinity of Sunderland: at the date of this being written, little more than a month has elapsed from the period of its introduction into this country, and already it is in London, in Edinburgh, and in many other towns. In 1832, the disease did not commence in Edinburgh till February, and in the first month of its prevalence in that city but 42 cases were reported; on the present occasion, however, 205 have been published within a corresponding period. Thus, with increased facilities of communication, since 1831-2, between the several parts of this country, and between this country and Germany, cholera consistently diffuses itself with the greater degree of rapidity. And this has been the case with a comparatively low temperature,—a condition of the atmosphere *pro tanto* unfavourable to such diffusion; whereas, within my own distinct recollection, the latter part of the autumn of 1831 was warm, and at times summer-like.

If we take the more particular history of cholera, we shall find abundant records of its transmission directly from individual to individual; indeed, every one's experience of this disease must have furnished illustrations of this statement, however the facts may be explained away. Most anti-contagionists attribute circumstances of this kind to identity of influences to which persons in constant communication with each other are placed, and assume the existence of some special condition in the particular air or soil that affects individuals falling in succession; but this kind of reasoning would equally disprove the contagious nature of small-pox or of maculated fever: it must certainly be rejected. In Manchester, in 1832, there was much evidence of direct contagion: groups of cases happened in particular courts, and in particular lodging-houses, when the town generally was free; instances so marked that Dr. Gaulter, who wrote the history of cholera in Manchester, confesses their decisive character, notwithstanding his adoption for the most part of the doctrine of atmospheric influence. Look, moreover, at the first cases recently showing themselves in Hull, in Edinburgh, in London, and in Woolwich; they were all, or nearly so, traceable to importation from infected places. The extension, too, has been hitherto witnessed amongst particular classes; at Woolwich, a very undue proportion of convicts fell in close succession, the place at large being free; several cases occurred one after another in the Millbank Penitentiary, when there were no instances among the general population of the immediate neighbourhood,—facts not very consistent with the atmospheric theory. The plea which appeared in the newspapers, that a convict ship was moored just opposite some sewer mouth, which thus constituted the efficient cause of cholera showing itself therein, is simply absurd, if adduced, as apparently it was, in scientific exposition of the phenomenon. I should trespass unduly upon the attention of the Society were I to do more than refer very briefly, and for the exemplification's sake, to this set of facts.

A great many statements are constantly hazarded that deviate materially in their character from what has been just set forth; I am quite sure, however, that upon this head there is a great deal of random assertion. Thus it is often said, that when cholera breaks out in any place, it, like influenza, pervades nearly every appropriate locality at once. I have more than once heard it stated that this was the case in Manchester in 1832: a careful reference to the newspapers of the day enables me, however, to contradict this assertion. It was with Manchester as with most other places of which we have trustworthy accounts; for the first few weeks the instances were sporadic, and but progressively did the numbers advance to the epidemic extent. The increase and multiplication of cases constantly remind one of the progress of epidemics of small-pox or scarlet fever; the extension of cholera in this town in 1832 exhibited a singular analogy to that of maculated fever last year. The first examples were nearly always in contiguous groups, in particular districts here and there; and such, indeed, appears to be the state of matters in the several towns which the disease has already invaded upon the present occasion.

When it is contended that because in some cases the source of contagion cannot be discovered, therefore there is no contagion, consideration should be given to the qualifying circumstances of other contagious diseases; whereupon it will readily be seen that if such a line of argument be admissible, the idea of contagion in small-pox, scarlet fever, maculated fever, and hooping-cough, must for the same reason be rejected. It is undeniable that the poison germs of all these diseases may in some conditions float in the atmosphere; and that, when in sufficient concentration, they seize upon persons highly predisposed, and cause the respective diseases; and that foul air, in ill-ventilated localities, may occasion their fixation in such a way as mediately to infect persons. Such matters are all but demonstration to those who have had much experience in this class of facts. Particular houses and courts, after the occurrence of successive cases of a contagious disease, fix and retain the morbid poison, sometimes for long periods. Numerous cellars and low lodging-houses in this city, last year, infected their successive occupants with the virus of maculated fever, in instances where there had been no traceable communication between affected individuals. Then it is notorious that bedding and clothing will retain the poison of contagious diseases for an indefinite time, awaiting only its conditions of development for the production of disease. See how for years even the vaccinating virus will remain dormant, and still retain its essential vitality, fructifying upon being introduced beneath the cuticle of predisposed individuals. All these circumstances, alike in their direct and in their analogical relations, should be duly reflected upon, when there exists difficulty or impossibility of tracing contagion in cholera. As I have before said, we must reject contagion altogether, if for its proof we are required to make it out in every case.

At this very moment, whilst I write, I am favoured with a communication from Dr. Laycock, of York, in which he *incidentally* refers to the subject of this paper. Although the communication is a private friendly letter, I have no difficulty in subjoining the following extract, making mention of certain cholera cases that had just occurred in York, at its date, October 29th, 1848:—

"A boy living in a dirty court in York was attacked first, his symptoms not very strongly resembling those of Asiatic cholera. He died. Then an Irish child in the same court in a house just opposite to where the evacuations from the first case were thrown, took it and died. Then the mother before the child's death. Then the father, who is recovered, after the death of both. A woman from another part of the town went to move the father; she took it, and died. These are all the cases we have had. The last case is in a horrid district, and you will shortly hear that the poison is contagious enough. . . . . I could not trace the source of contagion in the first case, but my inquiries were imperfect, because the patient (the principal source of information) was dead. It is very difficult, often indeed impossible, to trace the source of contagion in the exanthemata. My brother is now living in a retired village in the country, had the small-pox lately, and the only chance of contagion he had was being in York for a few hours about three weeks previously."

I have no information as to whether there has been any extension of cholera in York since the date of Dr. Laycock's letter, nor for the present purpose have I thought it necessary to make any inquiry, as the fact in either case would have but little influence upon the argument.* It is the circumstances attending the first appearance of a disease like cholera, that possess the greatest interest in reference to the question of contagion; and the earlier cases nearly always in their course exhibit the greatest analogy to other diseases universally allowed to be contagious.

Before, however, quitting this division of the inquiry, I will adduce another illustration or two.

In the Provincial Medical and Surgical Journal for November 1st, 1848, the following statements, with respect to the irruption in 1832, of cholera in Bath, are made upon the authority of Mr. Norman of that city; and the introduction of them occurs without reference to the question of contagion:—

"In 1832," says Mr. Norman, "the cholera broke out in two houses in Avon Street, Bath, almost all the inmates of which houses died. From these it spread to the immediate vicinity, to which it was confined with very few exceptions. . . . . The next year an isolated case occurred in Avon

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* The author has ascertained from a communication subsequently received from Dr. Laycock, that cholera ceased after the occurence of the cases mentioned.

Street, and within a few days another in Mill Street, (parallel with and on the same low level as the former street). A man was sent from the Poor House to superintend their immediate interment, and he followed them to the grave. Within a week, the town being otherwise quite free of the disease, it broke out suddenly in the Idiot Ward of the Poor House, situated at a considerable distance from the former cases. Of these idiots, 12 out of 15 died. There had been no communication with them from the town, nor did the disease exist in the other parts of the Poor House. The only apparent source of the disease was by this man, who was their usual attendant, and had been sent to direct the burial of the two cases occurring in the town." Dr. Copland, in his Dictionary, supplies the following fact of very similar import:—" Soon after the opening of the first cholera hospital in the vicinity of London, near Bermondsey, I passed a considerable time with the patients first admitted, and was present during the inspection of two fatal cases. I drove thence in an open carriage and saw two relatives, residing in an airy situation in Pentonville, a distance of from three to four miles; and yet the persons whom I visited, after so long a drive in the open air, complained to me instantly upon my entering their apartment of the offensive odour which proceeded from my clothes. I was cautious in not mentioning the source of this odour, and no suspicion was entertained by them of the cause. But the following day I was called to them, and found them both in an early stage of the distemper, from which they ultimately recovered with difficulty. Precautions were taken against the further extension of the malady in this house, and no case occurred in the vicinity until some months afterwards."

It appears to myself to be quite impossible to explain facts like the above upon any theory but that of contagion: no atmospheric or bad-drainage hypothesis can be adduced as in any way calculated to elucidate such occurrences.

The illustrations just set forth, have accidentally fallen in my way whilst engaged with this paper. If the purpose had been to prepare a formal and extended essay, a very little research would have procured facts of a like kind in abundance, as in almost every account of a cholera epidemic that I have seen, corresponding records occur,—related, moreover, without controversial reference to the theory of contagion.

A circumstance that demands an amount of attention in any investigation of this subject, which, so far as I have seen, it has not not hitherto received, is this: if cholera be a contagious disease, it must be expected to follow the law which is observed by others of the class, according to which a power of communicating the malady to others may obtain in persons who themselves but labour slightly under the ailment. An almost infinitesimal quantity of vaccine virus will infect another as well as a copious inoculation. Syphilis I have seen transmitted from a husband to his wife, and to his child *in utero*, in whom for some time before marriage all outward indications of the disease had ceased. Maculated fever—it is within the experience of all who saw much of the epidemic last year—was communicated almost as readily by a mild *febricula* that scarcely laid the patient up, as by the severer spotted cases; and so it is in other such diseases of which we have much experience: they can be communicated by persons about whom the presence of the virus, independently of ulterior results, would never be suspected. Look at puerperal fever: but for the special relations of the accoucheur to the parturient woman, how in many cases would the contagion he traced? Now let us apply these facts to the consideration of cholera. It is a generally recognized circumstance, that premonitory diarrhœa, apparently of a simple character, precedes the more malignant stage of the disease; and that recovery from this diarrhœa is frequently brought about through the agency of medicines, or spontaneously, without there being any indication of the proper signs of cholera. Now, if such diarrhœa be *choleraic*—the effect in any way of the specific virus—why should not persons with mere bowel complaint, when these result from the epidemic influence, convey to others the germs, capable, in a high degree of predisposition, of developing the unequivocal cholera? This is a circumstance well worthy of being scrutinised.

It is certain that whenever cholera rages severely, bowel complaints, apparently simple, are unusually prevalent;

just as slight feverish attacks abound in suitable localities, when maculated fever is epidemic; or, as sore-throats, with a bare tendency to fever, are so often to be found in houses and neighbourhoods where there is much scarlatina; indications which, mild as they may seem, are commonly thought to result from the epidemic influence. Indeed, the more extensively we take into consideration the actual facts and qualifications of diseases universally admitted to be contagious, the more decidedly do we detect the analogy of such diseases to cholera.

It is curious that members of the profession should to so large an extent have followed in the wake of lay investigators of this class of subjects, in attributing so much, and such varying effect, to bad sewerage, filth, and defective ventilation. That these conditions prejudice most grievously the general health, is certain; and that, as predisposing causes to almost any disease, they operate powerfully, is equally so. And, moreover, that noxious and stagnant air will fix and retain invisible poisons, is all but demonstration.

But surely medical men, who, from daily experience, are familiar with the circumstances of small-pox, measles, and maculated fever, and who, in reasoning upon such matters, are wont to discriminate between the subordinate and accessory, and that which is direct and essential, should not abandon their philosophy in dealing with cholera, because it happens to be of rare development, and a comparative stranger to observation.

For the actual production of any contagious disease in an individual, several antecedents are confessedly required; but some of these are equally antecedents of many diseases. In all such instances, however, there is one that is indispensable to the particular ailment—its proper virus; and this latter, when its existence becomes assured, constitutes the *vera causa.*

Sanitary reformers, who are not at the same time familiar with practical medicine, naturally enough do but regard and reason upon the obvious, and the physically demonstrable. It is for medical men, however, who have a more enlarged acquaintance with the whole subject, to correct such conclusions as experience shows to be fallacious. We should insist that the uniformity of nature is as remarkable in vital phenomena as in those of physics, though not always so traceable and so well understood. We should urge, moreover, that a sequence that is out of ordinary experience, must have dependence, in some degree at least, upon an extraordinary antecedent. Bad sewerage, and defective ventilation, have always existed somewhere, without cholera as a sequence, so that we must assume an unusual agent as necessary to the production of a new disease. We cannot by physical tests demonstrate this new agency, but we can witness its effects; and these sufficiently prove that it is a specific poison, analogous in many points of view to the poison of exanthematous fevers, which are contagious.

Besides the influence of contagion however, there would certainly appear to be a condition of the atmosphere favouring in some seasons rather than in others, the diffusion of particular ailments, of an infectious character; for, although small-pox, measles, and scarlatina, always exist, to a greater or less extent, it is only at intervals that the virus fructifies, so as to extend the diseases epidemically,—a circumstance commonly attributed to some occult property in the air or in the soil, and designated by writers the "epidemic constitution." As vegetable germs will alight on soils sufficiently congenial, and yet only become fertilized largely in favourable conditions of the atmosphere; so, with contagious diseases, we must recognize an epidemic constitution, or states of atmosphere favourable to their increase and multiplication. Our ignorance of the epidemic constitution of cholera is no greater than of that related to other diseases of an analogous nature.

It is an interesting question, but one I fear that must always remain subject-matter of mere speculation, whether the germs of contagious poisons may not, in some circumstances, meet with their conditions of increase out of the human body, and in such a way infect the atmosphere more extensively than can well be explained by assuming them to float without multiplication, after being given off. Although we have no evidence of such a thing, the idea does not appear to myself to be improbable. But to enter fully upon this speculation, would carry me beyond appropriate limits.

In bringing this paper to a close, I would avoid the imputation of undervaluing the meritorious exertions of our sanitary reformers; for, in a practical point of view, I go with them heart and soul. In doing so, however, it is neither just nor politic to sanction conclusions deemed to be scientifically erroneous; and it is equally wrong to foster the exaggerated anticipations of enthusiasts in the cause.

In conclusion, I will sum up the inferences which I deduce from the facts and considerations briefly set forth in the premises:—

1st. That cholera is developed in predisposed individuals by absorption into the system of a specific virus.

2nd. That in the bodies of the affected, this virus becomes reproduced and multiplied, tainting the contiguous atmosphere so as to influence other predisposed individuals immersed in the same.

3rd. That the contagious germs may float in the air, and also lurk in fomites, so as to infect persons not having direct communication with the sick.

4th. That not the severer cases only, but every instance of cholera, may communicate mediately or immediately the special disease.

5th. That in all these respects, cholera is the analogue of small-pox, measles, scarlatina, hooping-cough, and maculated fever.

Appendix.—By permission of the editor of the Medical Gazette, the author will append in this place some observations relative to the progress of cholera subsequent to the period at which the above paper was written; conceiving that its more recent history abundantly confirms the views therein advocated.

When cholera prevailed in this country seventeen years ago, the Board of Health of that day maintained very strictly the doctrine of contagion; and local authorities, whatever were the private opinions amongst individual members of the profession, very generally regulated their several precautionary proceedings in this view of the subject. Over and above the enforcement of cleanliness and ventilation, isolation of the sick was every where a leading provision. In some instances, well fitted up hospitals and places of refuge preceded the outbreak of the disease; and the possibility of its importation from infected localities was never lost sight of. During the present visitation, however, contagion in cholera having been *disallowed* by the legal authorities, both quarantine and separation of the sick have been discountenanced. The question now presents itself: has cholera made greater progress under the present, or under the former system, in corresponding periods? Certainly, under the "non-contagion" *régime*, its severity and its diffusion have been much more considerable than in 1831-2. On this latter occasion, for the first three months it extended itself but little beyond a radius of some fifty miles around Sunderland; while in a corresponding duration upon the present occasion, it has manifested itself, in a greater or less degree, in very widely separated places both in England and Scotland; and it has appeared, moreover, in Ireland. The returns from the General Board of Health at the respective periods exhibit the result in figures. As regards the *stage* of the visitation, the February of 1832 will correspond with the January of the present year. To the 16th inst, 7854 cases were reported; but to the 16th February, 1832, only 4519 had been returned to the Board of Health. To the latter date, 1358 deaths had been reported; but there has been nearly three times that number for the corresponding period of the existing prevalence of the disease, the amount being 3548!

The present writer would not for a moment maintain that, in the actual state of society in modern Europe, cholera could be restrained within boundaries by any system of quarantine or of separation; still, he conceives that *something* may be done in the way of *check*, as admittedly is the case with the exanthematous typhus. Custom-house regulations do not absolutely prevent smuggling, nor does penal legislation extinguish crime; no one, however, in his senses would on this account argue for their abolition, nor deny their preventive efficacy.

In brief reference to the more particular history of the present visitation, it has been noticeable how often the cholera has continued to shew itself severely in workhouses, prisons, and other such establishments, when the contiguous localities have been suffering but little or not at all. Mr. Drouet's pauper asylum for orphans at Tooting, will remain for all time a remarkable and lamentable illustration of this class of facts: how in such instances the contagion becomes introduced, it is sometimes difficult or impossible to say. But the fashion of repudiating contagion interferes with due inquiry into these matters; and the published accounts very often contain no reference to the subject. Measles and scarlet-fever not unfrequently exhibit themselves in schools and public establishments under exactly similar circumstances. Such, however, is not the case with summer diarrhœa or influenza.

But in spite of the newspapers, and the dicta of boards of health, and the tacit assent of the great body of the profession, the truth from time to time will reveal itself unmistakeably. Very recently it was announced in the daily press that a man labouring under diarrhœa, which lapsed into cholera, entered the Hertford gaol, whereupon eleven other cases in rapid succession ensued within the building, some of which proved fatal; alarm was taken at *these obvious* facts, which received their *just interpretation*; and a system of isolating the sick was adopted, whereby the further progress of the disease was arrested. The city itself outside the prison walls was free. About five weeks ago, a man, with his wife and child, labouring under diarrhœa, arrived in Liverpool on their way from Dumfries: they all died of cholera immediately afterwards. The local newspapers stated that the circumstance need excite no alarm, "as the disease was now ascertained not to be contagious." However, the woman who nursed, washed for, and laid them out, took it and died. This was the only case originating in the same locality. Surely this was an instance of contagton.

The world turns round still! Galileo is reported to have said, after the decision of his judges, that the earth's rotation upon its axis was no fact.

Cholera is in Ireland. And did it exhibit itself first in the filthy purlieus of Dublin, Cork, Waterford, or Clonmel? No; but in Belfast, notwithstanding its pre-eminence in many of its material conditions; and Belfast is most freely in communication with infected Scotland. Here, too, the newspapers set forth that the first cases were imported. The following, regarding its subsequent progress, is taken from the *Times* of the 16th inst., extracted from the *Belfast Chronicle*:—"As was naturally to have been expected, cholera is slowly but steadily on the increase; the cases reported for the last three days amounting to 21 in all. The circumstances of several of these make strongly in favour of the opinion that the disease is infectious, at least under particular conditions of atmospheric locality and bodily health; and we believe that most of the professional gentlemen who have paid attention to the various cases since the malady first appeared in town are now inclined to this side of the question."

Finally, the cholera has reached New York, and some other American towns in constant communication with the sea-ports of north-western Europe.

Well might Mr. Wakley, during the inquest upon the cholera deaths at Tooting, observe, as reported in the *Times*, "Though it had been held by most eminent authorities, and such indeed had been his opinion, that cholera was not contagious, yet he must say that some things which had recently taken place were calculated in some degree to shake that confidence;"—an example of manly candour, it is to be hoped, that will be followed.

Manchester, Jan. 18, 1849.

OBITUARY.

On the 16th inst., at his residence, Warwick Buildings, Worthing, Sussex, after a lingering illness, Jacob William Robins, Esq., M.R.C.S., I.A.C., in the 72d year of his age. He was many years resident as a general practitioner in the New Road, London.

PROFESSOR THOMSON.

The Athenæum announces the death of Professor Thomson, of the University of Glasgow, from an attack of cholera. In the list of professors of this university, there are four bearing the name of Thomson. The gentleman whose decease is here recorded is W. Thomson, B.A., Professor of Natural Philosophy.

ON THE

CONSTRUCTION OF THE PLACENTA,

AND THE MODE OF COMMUNICATION BETWEEN THE MOTHER AND THE FŒTUS IN UTERO.

Supplement to Papers on this Subject concluded in No. 1031 *of the* MEDICAL GAZETTE.

By FRANCIS ADAMS, LL.D.
Surgeon, Banchory.

I FIND myself called upon to resume this subject, in consequence of having been obliged to leave one portion of my argument incomplete at the time I composed my papers on the Construction of the Placenta, which appeared in the MEDICAL GAZETTE during the months of July, August, and September, 1847. At that time, having never had an opportunity of inspecting the anatomical preparations in the Hunterian Museum at Glasgow, I was under the necessity of passing judgment upon those which relate to the structure of the placenta entirely at second hand, and principally upon the report of the authorities quoted by Dr. Lee, in his paper contained in the Philosophical Transactions for the year 1832. I have since had it in my power to inspect them carefully for myself, and consequently it becomes my duty to state publicly the results of my examination, as far as they bear upon the opinions advanced by me in my former communications. I think the present, moreover, a most fitting occasion to redirect the attention of the profession to this question, as I find that a zealous advocate of the Hunterian hypothesis, in a late number of the MEDICAL GAZETTE, rests his defence of it almost entirely on the appearances presented by these preparations: his words are—"Many years ago the Hunters demonstrated that vessels passed (pass?) from the uterus into the placenta, and the beautiful injections left behind them still remain to certify to this fact. Since then several attempts have been made to repeat these injections, *but without success*, and thus incontrovertible evidence seemed to be afforded in favour of the opinion that the placenta was (is?) entirely fœtal. The injections, and the doctrine founded upon them, were considered to be equally fallacious, &c." It thus appears that the evidence in support of the Hunterian hypothesis is now made to rest entirely upon the anatomical preparations contained in the Hunterian Museum. Whether or not the gentleman whose words I have just quoted ever actually inspected these preparations, I have no means of knowing; but if he has, I must say that either he or I have been looking at the same objects through a coloured medium, and have drawn very different conclusions from the same data. Indeed, I may mention, that when I entered the Hunterian Museum, for the purpose I have stated,—although I must admit that I did so under the impression that the Hunterian hypothesis is at variance with a general law of the animal economy,—I did expect to meet with appearances by which I should be staggered, and fancied to myself that my mind for a time would be in such a state of suspense, as the Roman poet professes to have been, when called upon to pronounce judgment on the justice of a cause, when the Gods were on the one side, and Cato on the other!

"Victrix causa Diis placuit sed victa Catoni."

I was not a little surprised then,—I may almost say disappointed,—to find that, notwithstanding the imposing titles which certain of the preparations on the gravid uterus bear in the catalogue, there is not a single one of them which, when impartially examined, would warrant the inference drawn from them by the Hunters—namely, that arteries "of the size of crow-quills, and veins of a considerable size," pass between the uterus and the placenta.

I now proceed to give literally the remarks which I wrote on these preparations at the time I made my examination of them. It would serve no good purpose, however, to detail my observations on all the preparations of the gravid uterus which I examined, as a very large proportion of them do not at all bear upon the question at issue; and therefore I shall be content with relating what I consider to be a sufficient number for forming a general judgment on the whole:—

No. 31, s.—A portion of the uterus at the place where the placenta adhered; the orifices of the torn veins full of plugs of coagulated blood: very remarkable. [*Very unsatisfactory: no certainty that what are* *here represented as vessels are vessels. The substance on the inner surface of the uterus evidently a portion of the maternal cotyledon much torn.*]

33, s.—A portion of the uterus in which the arteries had been injected red, the veins yellow: shows inside surface and the torn orifices of the veins filled with the yellow injection. [*Pieces of red wax, certainly having some resemblance to vessels, are to be seen, but they prove nothing as to the construction of the placenta.*]

34.—Ditto, shows ditto. [*Nothing certain can be made of this preparation: very unsatisfactory.*]

96, s.—A portion of the placenta and its membranes: on the surface which adhered to the uterus may be seen some very small curling arteries injected red, and veins injected black, which are going to the cells of the placenta. [*I cannot make anything of this preparation. Substance of the placenta a mass of red wax.*]

100, s.—A small section of placenta with part of the membranes: the cells of the placenta have been filled from the veins of the uterus, and vice versa; the cells are not very bare; on the side which adhered to the uterus the veins may be seen very distinctly. [*Difficult to say what is meant here by the cells of the placenta. Quite an indistinct preparation.*]

106.—A section of uterus with membranes turned partly down, and showing a double layer of decidua. [*A beautiful preparation. What is called decidua, a mere film, seemingly devoid of regular structure.*]

118, s.—A section of uterus with placenta partly adhering and partly detached: showing in the augle the mode of adhesion. [*Very interesting, but no appearance of vessels at the angle. Quite at variance with the Hunterian hypothesis, as not exhibiting the utero-placental vessels.*]

124, s.—A small portion of the placenta and uterus, where the cells of the placenta have been injected from the veins of the uterus; the veins are seen, very large, entering into the substance of the uterus: injection green. [*The green pieces of wax here taken for veins passing between the placenta and uterus, are as large as the femoral vein of an adult. Quite out of the question that this can be a correct preparation: evidently the result of laceration.*]

145, s.—A portion of the uterus with placenta adhering; injected red: the cells of the placenta injected from the uterus. [*Difficult to make out what is meant by the cells: altogether the placenta is a confused mass.*]

147, s.—A portion of placenta with the cells apparently filled with fine injection of a red colour; less distinct than when coarse injection is employed; the vessels of the navel-string are quite empty, although the vessels of the cells had been very minute, proving no communication. [*The entire mass of the placenta is here seen injected, except the cord; consequently the injection must have burst the vessels, even according to the Hunterian hypothesis.*]

149, t.—A portion of uterus and placenta; the arteries injected of a dark colour, and veins green: both vessels are seen entering into the substance of the placenta. [*Pieces of wax to be seen on the uterine surface of the placenta, but no reason to suppose that they are vessels.*]

158, t.—A portion of uterus and placenta; the placenta being partly detached, shewing veins injected green from the uterus, going into the posterior surface of placenta; the placenta itself injected with a different injection. [*Certainly no inference as to the construction of the placenta can be drawn from this preparation. The green substances are taken for vessels, but in all probability they are lacerations; the wax has burst the vessels.*]

160, s.—A placenta injected from the navel-string red, to great minuteness, most entirely unravelled, showing a most beautiful shag of vessels: it has been hardened by spirits of wine probably, and put into oil of turpentine. [*A curious preparation, but shows nothing in regard to the construction of placenta. Indeed, it seems at variance with the Hunterian hypothesis, for the whole mass of the placenta is injected from the umbilical cord.*]

(?) s. t.—A portion of uterus with placenta adhering; the vessels of the uterus injected red and black: the cells of the placenta are filled with a different injection, and therefore not from the vessels of the uterus, but must have been previously filled from the spongy surface of the placenta itself. [*What is here said about the cells is quite imaginary: here the mass of the placenta would seem to be injected from the uterine vessels. Preparation quite unsatisfactory.*]

176, s.—Section of uterus with placenta adhering: the cells of the placenta are injected from the vessels of the uterus. [*The centre is filled with a red injection from the uterus, but no appearance of vessels passing between the uterus and placenta.*]

178, s.—A small section of the uterus, with the veins injected green, and broken off where they are entering the placenta. [*Green pieces of wax are to be seen on the surface of the uterus, but no reason to suppose them truncated vessels.*]

From what I have now stated, it will be readily understood that, in my opinion, the preparations in the Hunterian Museum at Glasgow do not at all warrant the inference that there is any connection by arteries and veins between the uterus and placenta, and that the appearances of connection which they exhibit may all be reasonably supposed to be the result of laceration. At all events, as the collection exhibits the most contradictory appearances, it is perfectly indisputable that one is not warranted in founding any theory upon them. For example, No. 147 exhibits a placenta wholly injected from the uterus, while No. 160 is a placenta entirely injected from the umbilical vessels. Now most assuredly it will be admitted that one or other of these preparations must be incorrect, seeing they lead to incompatible and contradictory inferences. Then, again, who for a moment can believe that vessels of the size of the femoral vein pass between the uterus and the placenta, as exhibited in No. 124? And, to give another example, when masses held to be vessels are exhibited in No. 124, how does it happen that the said vessels do not appear in No. 118, which exhibits an uterus with a piece of placenta partially detached from it?

I repeat, then, after a careful, and, I conscientiously believe, an impartial inspection of the preparations of the gravid uterus contained in the Hunterian Museum, I do not fear to declare it as my decided opinion, that they do not at all warrant the inferences which the Hunters drew from them of a vascular connection between the uterus and placenta.

How the Hunters came to entertain such erroneous notions regarding the placenta I have partly explained in the former part of my communication; namely, that it was owing to their minds having been occupied by strong prepossessions in favour of the termination of the absorbent vessels in patulous mouths, and their prejudices against the doctrine of imbibition through membranes. It is a melancholy instance how a superior mind may be blinded by prejudices, that Dr. W. Hunter professed to have actually seen distinctly the terminations of the lacteals in an intestinal villus, and that the Museum of the Hunters contained preparations which were held to show decidedly the patulous orifices of these vessels.* With such unfounded prejudices and mistaken views, it was morally impossible that the Hunters could have solved the problem as to the mode of communication between the mother and fœtus in utero, unless it shall be maintained that it is possible to draw correct inferences from erroneous premises. How the opinions of the Hunters on this subject should still command authority in this country, can also admit of a ready explanation, when we advert to the extraordinary veneration in which their names have been held for the last 60 or 70 years: this is so much the case, that Mr. Samuel Lane, in his excellent paper on the Lymphatic and Lacteal System, in the Cyclopædia of Anatomy, complains that he found the minds of professional men had not yet freed themselves from the influence of the Hunterian views with respect to the parts performed by the lymphatic vessels, and that we are still allowing ourselves to be misled by these impressions. It is now at least thirty years since our Gallic brethren overturned the doctrines of the Hunters regarding absorption, and yet we stuck to them down almost to the present date. We were long behind our neighbours, also, in admitting the possibility of absorption by veins and through membranes; but, now, all must allow that on these points the Hunters were greatly in error. To allow, then, that they had also deceived us on the subject of the placenta appears altogether monstrous in the eyes of those ardent worshippers who are not yet prepared to cast off the Hunters as their professional Indigetes. What adds much to the tenacity with which their hypothesis on the placenta is still defended, is the circumstance that it is intimately connected with the art of midwifery, and that many of our standard authorities in this line are already strongly committed on the subject, and naturally feel reluctant to believe and to confess that they have long been propagating erroneous doctrines on points of the most vital importance, as regards the lives of their fellow creatures.

Vel quia nil rectum, nisi quid placuit sibi, ducunt
Vel quia turpe putan parere minoribus, et quæ
Imberbes didicere, senes perdenda fateri.

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* See Mr. Lane's paper on the Lymphatic and Lacteal System, in the Cyclopædia of Anatomy, and Goodsir's Anatomical Essays.

This feeling, then, so well expressed by the poet in the verses just quoted, has operated powerfully in all ages, and for the reason which I stated it weighs very strongly with the obstetrical authorities at the present time. Hence some of them obstinately cling to the Hunterian hypothesis, while at the same time they admit facts bearing upon the question, which, to any unprejudiced mind, must appear quite decisive against their own opinions on the question as to the supposed vascular connection between the uterus and placenta. For example, one of them lately made the following candid statement of facts: "The uterine surface of the placenta is covered by a delicate membrane, and seems to be so applied to the walls of the uterus as to close the venous openings on its surface without any direct connection with them. *The placenta may be peeled from the uterus more easily than the rind from an orange: no vessels seem to be broken.* The natural inference from these facts would be, that the placenta belongs altogether to the fœtus; that no maternal blood passes into it; and that any interchange between the blood of the child and the mother takes place only at the surface of the uterus, to which the placenta is applied like a cake of unbaked dough." —MED. GAZ., No. 1,094, p. 826. On this remarkable passage I shall only remark, that the two facts here distinctly admitted appear to me quite decisive of the question at issue; for if the placenta can be peeled from the surface of the uterus more easily than the rind from the orange, without any vessels being seen to be broken, and if no vessels can be detected on the membrane which lines the uterine surface of a separated placenta, we may rest assured that the so-called utero-placental vessels are altogether ideal.

In the course of my examination of the preparations in the Hunterian Museum, I was much struck with one of them, and with the title it bears in the catalogue:—"No. 320, s.—A portion of gravid uterus from the cow, showing the oval fungus of the maternal part of the placenta, resembling in its surface pretty much a cauliflower. This and the foregoing preparation show that in many quadrupeds the maternal and fœtal parts of the placenta are quite distinct in structure from each other, and may throw light on the human placenta, where there is a more intimate connection between the fœtal and maternal portions."

Here then it would appear that W. Hunter had before his eyes a specimen of a placenta constructed upon a totally different type from what he conceived the human placenta to be—namely, with a complete separation between the maternal and placental portions, and where of course nutrition must take place by absorption through the membrane. Strange that it should not have occurred to his acute mind, that if absorption through the membrane can take place in one of the mammalia, there is every reason from analogy to suppose that the same vital process must operate in its congeners, and more especially in the highest genus of the class; and that if the secundines be entirely separated from the uterus in one of the genera, that there is every reason from analogy to infer the same of the others. (?) But whatever their blind worshippers may say to the contrary, the minds of the Hunters, and especially of John Hunter, were not of a logical cast, nor capable of entertaining any very enlarged views on professional or scientific subjects. Had they been well trained in tracing the structural analogies in the animal kingdom, and in drawing proper inferences from them, they could not have failed to arrive at the conclusion, that as every other organ in the bodies of man and the ox are constructed on similar types—as, for example, the lungs, the heart, the liver, the kidneys, the bladder, the womb; nay, if even with regard to the contents of the cranium itself, which is as it were "the dome of thought and palace of the soul," every particular structure in the brains of the two animals is formed on the same fundamental type;* it is contrary to all analogy to suppose that the secundines should be constructed on entirely different types, and that their functional office should be decidedly and totally different.

And here I cannot deny myself the pleasure of introducing a quotation in which this train of thought appears to me very conclusive on the argument which I am now enforcing. "In all the principles of his internal structure, in the composition and functions of his parts, man is but an animal. The lord of the earth, who contemplates the eternal order of the universe, and aspires to communion with his invisible Maker, is a being composed of the same materials, and framed on the same principles, as the creatures which he has tamed to be the servile instruments of his will, or slays for his daily food. The points of resemblance are innumerable; they extend to the most recondite arrangements of that mechanism which maintains instrumentally the physical life of the body,—which brings forward its early development, and admits, after a given period, its decay,—and by means of which is prepared a succession of similar beings, destined to perpetuate the race."—(Prichard's Natural History of Man, p. 2.)

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* See Tiedemann on the Fœtal Brain, *passim.*

From what has been now stated, I trust it will be generally admitted that I am warranted in drawing the following inferences:—

1. That a careful inspection of the preparations of the gravid uterus, in the Hunterian Museum at Glasgow, gives no support to the hypothesis advanced by the Hunters and their followers regarding the construction of the placenta, and the mode of communication between the mother and the fœtus in utero.

2. That these preparations, by appearing to prove too much in regard to a vascular connection between the mother and fœtus, lose all claim to be held as competent evidence on the question at issue: since, for example, some of them exhibit vessels of the size of the femoral vein, passing between the uterus and placenta; and in others the whole substance of the placenta is injected from the uterus.

3. That considering how close an analogy subsists between the respective organs in the bodies of the ruminants and the human subject, it is highly improbable that their secundines should be composed upon totally different types.

4. That since no one pretends to say that there is an utero-placental circulation in any other animal, it is contrary to all analogy to suppose that such a process takes place in the human subject.

5. That the human placenta, if constructed in the manner represented by the followers of the Hunters, that is to say, if composed partly of fœtal and partly of maternal vessels, all blended together into one compact structure, would be an absolute monstrosity, without a parallel in the whole works of Nature.

5. That it being now universally admitted, that the placenta can be peeled from the surface of the womb more easily than the rind from an orange, without any vessels seeming to be broken, and that there is no appearance of vessels on the uterine surface of an expelled placenta, it is impossible any longer to contend that the so-called utero-placental vessels have any existence.

Lastly. That in the human subject, as in all other animals, the secundines are altogether a fœtal structure, and that no maternal vessels can possibly be lacerated at the separation of the placenta in natural labour.

ILLUSTRATIVE CASES.

WITH CLINICAL REMARKS.

By G. Owen Rees, M.D. F.R.S.

Assistant-Physician to, and Lecturer on Materia Medica at, Guy's Hospital; Principal Medical Officer to the Pentonville Prison, &c.

1. *Obstinate chorea cured by salivation.*
2. *Rheumatic gout; treatment by lemon-juice.*
3. *Tubercular softening of the brain.*

Chorea.

(*Reported by* Mr. Howard.)

Caroline Farrell, æt. 20, needlewoman, admitted on the 5th of January 1848, into Miriam ward, under the care of Dr. Rees.—This patient, residing before admission in the Hackney Road, never enjoyed good health, suffering from occasional attacks of pain in the head and chest, accompanied with cough and some hæmoptysis, for which, a year ago, she was in St. Bartholomew's Hospital, where she was relieved. A month ago she was taking some needlework which she had completed to her employer's, when a gentleman came into the shop and spoke to her. She was not aware of his presence, and was directly attacked with convulsive movements of the body, the extremities not being implicated. After she arrived home, these movements left her for a short time; but in about a quarter of an hour after, she fainted, and they returned with greater severity, and have continued ever since. The muscles are quiet during sleep; her general health is but slightly impaired; bowels rather constipated; appetite not very good; tongue clean; pulse natural, 80 to 90. The attacks at times affect her respiration.

Feb. 6th.—She has now been in the hospital about a month. Her general health has improved under treatment, but the chorea continues with equal severity. During the month she has been ordered the following medicines:—

Jan. 6th.—Pil. Col. c. Galb. o. n.; inhalation of chloroform.

7th.—Zinci Sulph. gr. ij. t. d.

10th.—Zinci Sulph. gr. iij. t. d.

The treatment by the sulphate of zinc was continued up to Feb. 6th, with a gradual increase of the dose, and occasional administration of a purgative, but without any apparent alteration in the condition of the patient.

Feb. *7th.*—Ferri Sesquioxydi, ʒij. ter die.

11th.—Bowels confined; Jal. c. Cal. j. statim; Mistura Magnesiæ c. Magesiæ Sulphate, ter die.

13th.—Her general health is improved; but the chorea continues quite as severely as hitherto; bowels have been well acted on; pulse natural.

15th.—Continues much the same.—Ferri Sesquioxydi, ʒj. ter die.

18th.—Continues in the same state. Ferri Sesquioxydi, ʒj. ter die.

21st.—Augeatur dosis Ferri Sesquioxydi, ad ʒiij.

23d.—Continues much the same.—Augeatur dosis Ferri Sesquioxydi, ad ℥ss. ter die.

This was continued until Feb. 28th, when the patient became worse. Pulse weak. She was obliged to keep her bed. On the 28th she was ordered Mist. Camph. c. Tr. Opii, Sp. Æth. Sulph. ♏xx.; Tr. Aloes, ʒj. ter die.

March 1st.—Less shaking to-day, and expresses herself relieved; bowels open; has occasional pain in the chest and head.

2d.—Continues much the same.

4th.—Rather less shaking, and expresses herself better.

6th.—Zinci Sulph. gr. iv. ter die.

7th.—The chorea is perhaps a little better than when she came in: to-day the pills cause sickness.

The sulphate of zinc is being gradually increased again. The patient's health is pretty good, but the chorea still is but very little abated.

20th.—Dr. Rees determined to salivate the patient, and ordered Hyd. Chlorid. gr. ij.; Opii, gr. ½ ter die. Omittatur mistura.

April 3d.—Rep. Pil. ter die; wine, 4 oz. daily.

6th.—No change as yet; the chorea still very violent; bowels open: sleeps but little.—Pergat. Wine, 8 oz. daily.

7th.—Going on much the same; the chorea still very bad; general health pretty good; pulse 80, small; tongue clean, very red.

8th.—Much the same; no effect as yet from the calomel.

9th.—The patient is profusely salivated to-day, *and perfectly free from the chorea;* bowels have been well relieved; feels very weak.

10th.—Salivation still profuse; no return of the chorea.—Garg. Alum.; Omitte Pil.; Mistura Magnesiæ c. Magnesiæ Sulphate, ter die.

11th.—Pergat. Salivation not at all abated; great prostration; no return of chorea. Ordered—Red wine, ʒviij. daily.

12th.—Salivation less; general health better; perfectly free from chorea; bowels open; slept well and comfortably.

13th.—Pergat. The patient is much the same; slept well; no headache or pain of any sort.

14th.—The salivation is much abated; bowels well open; sleeps well; pulse good; very little appetite; enjoys her wine; expresses herself as feeling much better.

15th.—Going on very well, but rather low-spirited; complains of pain in her head; otherwise much better.

18th.—In every respect much better; salivation nearly stopped; appetite better; enjoys her wine; pulse good and natural; feels stronger, and is in much better spirits.

20th.—Pergat. Felt a slight return of the chorea for about one hour in the night; no return since; slight headache; bowels comfortable; salivation better.

21st.—Has not felt any return of the

chorea during the night, nor during to-day at any time; general health improving.

23rd.—Gradually improving; general health good; no return of the chorea in any degree. Is in good spirits; enjoys her wine and food. Salivation nearly stopped.

27th.—The chorea returned at two separate intervals of time, but feebly, and of less duration each time. The first attack lasted for a quarter of an hour,—an interval of about two hours then occurred, when it again returned for about five minutes.—Ordered of red wine two ounces. Pergat. No return of the chorea; walks perfectly well; no headache; appetite good.

June 1st.—Wine as before. Pergat. No return of chorea.

Discharged cured on the 3rd of June.

Remarks.—The want of success with those remedies usually employed in the treatment of chorea caused by fright, led me to believe that some important organic change had eventually taken place in this case in the cervical region of the spinal cord. The muscles principally affected with spasm were the sterno-cleido mastoideus and trapezius; the motions of the body produced being raising of the shoulders and projection forward of the chin. It was therefore reasonable to hope that some relief might be afforded by the exhibition of mercury used as an absorbent remedy; and more especially since the age of the patient, and her general appearance, rendered it far more probable that any organic changes which might have occurred consisted in thickening of structure, and such modifications as are the results of membranous inflammation, rather than in the presence of malignant deposit.

That the cervical portion of the cord was the part affected, was nearly certain, as the muscles involved in the spasmodic movements were those supplied by the accessory nerve, which takes its origin from that part of the spinal system.

I have not been able to obtain any account of the attack experienced by this patient a year ago, and which is alluded to at the commencement of the case. There is no reason, however, to believe that she ever suffered from pericarditis, either from her history, or from the examinations I made while she was under my care. The case does not, therefore, belong to the class of spasmodic affections, dependent on pericarditis and its sequelæ.

RHEUMATIC GOUT.

(*Reported by* Mr. CRAWCOUR.)

Eliza Allwright, a young girl aged 18, of a sanguine temperament, with auburn hair, and of a fair complexion, admitted into Miriam ward to-day, (December 8,) as a patient under Dr. Rees. She is suffering from rheumatic gout in all her joints, and is unable to move; the slightest attempt at motion giving her the most severe pain. She states she is a housemaid at Islington. About a month ago she caught a severe cold, and was confined to her bed for a week. She recovered from this, and considered herself perfectly well, but about a week since was suddenly seized with shivering and nausea, and experienced severe pain down her leg; the pain commencing at the hips. Her ankles also swelled considerably. In a day or two she felt great pain in her knees, which also became much swollen; and she entirely lost the use of her legs. Yesterday, Dec. 7th, she felt pain in her shoulders, which gradually extended down her arms to her wrists, and she then lost the use of both arms. The elbow and wrist-joints are exquisitely painful, but are not very much swollen. She perspires profusely, and is very flushed and feverish. Pulse about 120, and full. Her tongue is covered with a thick moist white fur. Dr. Rees ordered Pulv. Rhæi c. Calomel, ℈j. statim; Succi Limonis, ℥ss.; Mist. Camphoræ, ℥j.; ter in die.

9th.—Appears a little better; perspires less, and feels less pain. Swellings not diminished. She can move one arm very slightly. Pulse 75, less full.

11th.—Feels less pain.

12th.—Can raise her legs in bed, and also use her arms. The pain has considerably abated. To continue the medicine.

13th.—Much better. Pain entirely gone. Is able to get in and out of bed without assistance. Her bowels not having been relieved for two days, she was ordered Pulv. Rhei. c. Calomel ℈j. statim. Pulse weak, but natural.

14th.—Still improving. Feels no pain. Swelling much abated. Urine acid; in quantity, only about one pint in twenty-four hours; sp. gr. 1028. To continue the same medicine.

16th.—Complains now of great weakness: has not felt the slightest pain since the 13th: her appetite is good, and she sleeps well.—Pergat. Urine, sp. gr. 1,020.

18th.—Improving: expresses a desire to get up, and to have some meat. —Pergat. Urine, sp. g. 1,025.

20th.—Feels perfectly well, with the exception of slight weakness.—Urine contains a large amount of lithates.

22nd.—To discontinue the lemon-juice, and to take Mist. Ferri cr. ter in die. Pil. Aloes. c. Myrrhâ, gr. x. o. n.

23rd.—Complains of a little pain (probably owing to change of weather).

24th.—Pain gone: feels herself getting stronger.

25th and 27th.—Feels quite well, and talks of going out soon.

With regard to the urine, it has uniformly been scanty in quantity throughout the whole case, and also has constantly been acid.

Remarks.—It is principally owing to the very surprising effects which I have observed from the use of lemon-juice in the treatment of rheumatic gout, that I have been induced to notice this case. I have been now for several months in the habit of prescribing the remedy, with such marked and, I may add, rapid benefit, that I am unwilling to delay bringing it before the notice of practitioners.

Among the out-patients at Guy's Hospital, I have met with several prominent examples of cure, notwithstanding that such instances are necessarily derived from a class of persons who are by no means able to assist our treatment by following out our directions either as regards diet or regimen. The early relief from pain was such, that had any one unacquainted with the remedy in use watched the progress of the case, they would almost inevitably have concluded that sedatives had been resorted to.

I first had recourse to lemon-juice for the cure of rheumatic gout from a belief that the vegetable acids (probably owing to the excessive quantity of oxygen entering into their composition) contributed to effect the transformation of the tissues generally, and because lemon juice was the most palatable form in which such class of remedies could be applied. Moreover, it appeared probable that the supercitrate contained in the juice, though in small quantity, was a form of alkaline salt likely to contribute to the alkalinity of the blood in its transformations; knowing as we do, from the examination of the urine, that such organic compounds become converted into carbonates during digestion and circulation.

I hope to have an early opportunity of testing the accuracy of the above view by more careful observations on the urine than I have yet been able to make, and moreover of trying the efficacy of the plan of treatment in other acute forms of rheumatic disease.

The *fact*, however, that cases of rheumatic gout speedily improve when thus treated, will, I doubt not, be confirmed by all who may choose to adopt it in that painful disease.

SOFTENING OF THE BRAIN.

(*Reported by* Mr. CRAWCOUR.)

Elizabeth Mileson, aged 20, a young girl of light complexion, with dark hair, was admitted into New Ward, on the 5th of October, 1848. When brought in she appeared perfectly unconscious; her countenance was livid and anxious, the lips colourless, and the eyes closed. On examination, the pupil of the right eye was observed much dilated; the left arm was completely paralysed, the right slightly so: she appeared to have great difficulty in opening her mouth, but whether from unconsciousness of the question asked, or from absolute inability to do, could not be ascertained. Her skin was extremely hot and dry, presenting a feeling of almost pungent heat to the hand: the pulse was 120. From the history afforded by her grandmother, it appeared she had been irregular for the last five months, but in other respects was quite well; and that on Saturday last, having expressed a wish for some blackberries, the grandmother went to get some, and on her return found her in the state above described. She instantly sent for a surgeon, who ordered purgatives to be given, and a blister to be applied to the back of the neck. A large quantity of fæces of a green and slimy appearance came away from her bowels; but her symptoms remaining unaltered, she was recommended to be sent to Guy's Hospital. Dr. Rees saw her shortly after her admission, and ordered Enema Terebinthinæ statim; Hyd. Chloridi, gr. x. statim; Hyd. c. Creta, gr. iij. 4tis horis. The blister was dressed with savin ointment, in order that it might be kept discharging.

Oct. 6th.—Appears much better today; the eyes are open, and the pupils less dilated; the conjunctivæ are rather injected. She is now conscious when spoken to, and can raise her arms slightly. She can open her mouth, and swallow well, and can talk a little; her mind, however, occasionally wanders, and the tongue merely presents a few red papillæ round the apex. A large quantity of fæces, semi-fluid, and of a very fœtid odour, followed the employment of the enema and calomel. Her skin still remains extremely hot and dry, and her urine dribbles away involuntarily. Dr. Rees ordered her hair to be cut short, and the mercury and chalk continued.

7th.—Appears improving, but skin still extremely hot. She sleeps tolerably well, and can reply when spoken to. Has had no motion since yesterday. An enema of gruel and salt was therefore ordered to be administered.

The blister having ceased discharging, a little blistering fluid was applied.

8th. — Until about 3 o'clock she appeared much as yesterday, but about this time she was seized with a fresh attack: she became comatose; her breathing was difficult and stertorous; the eyes glazed, and the pupils dilated. The chest and extremities were of a pungent heat, but the head and face were remarkably cool: she had had no motion since yesterday, and her urine continued to dribble away involuntarily. An assafœtida enema was ordered, and sinapisms were directed to be applied to her feet; but she never rallied, and died at about half-past 10 o'clock.

From the statement of the relatives, it appears that both her parents are subject to fits; the father a confirmed epileptic. The grandmother is said to be somewhat deranged. Six months ago the patient fell from a window, and hurt her back. It is not certain that the head escaped injury on this occasion.

Autopsy, fifteen hours after death:—On examining the brain, its external surface and the membranes appeared firm and healthy, with the exception of a few strumous tubercles about the dura mater and arachnoid. On cutting deeply, the right hemisphere was much softened, especially the right fornix, which was in a perfectly pulpy condition. The ventricles contained a large quantity of fluid, and a number of strumous tubercles were scattered throughout the brain.

REMARKS.—The above case is one which will present many analogues to the experienced practitioner; cases in which sudden and fatal symptoms supervene, as the effects of conditions which have existed for years, and that too without producing a single symptom of distress, notwithstanding the importance of the organ involved. The prognosis in apoplectic seizure at the age of this patient is generally unfavourable. We can scarcely in these cases have recourse to the supposition that disease of arteries or of the heart is the originator of the mischief, and in the absence of kidney disease and its concomitants, the existence of softening or of tubercle is in most cases forced upon our conviction as the irremediable cause tending to an unfavourable result. What the exact conditions may be which induce apoplectic effusion in cases so predisposed by old disease, it is not perhaps easy to determine in every case: nor is it less difficult to point out symptoms by which we may be able to detect such latent predisposing causes before the effusion produced by the excitant makes the whole evil evident. This poor girl was well, and in spirits, but a few minutes before the old disease in the brain induced fatal apoplexy, and she had shown no peculiarity of temper or mind, so far as could be gathered from her friends.

I once saw a case, however, in a young person in which the fatal result was preceded by long continued remittent fever, accompanied by a more than ordinary degree of lassitude at its commencement, and from which the patient was only relieved by death from cerebral effusion.

MEDICAL GAZETTE.

FRIDAY, JANUARY 26, 1849.

ABOUT ten months since we reported the case of Cox v. the *Midland Railway Company*,* in which Mr. Sands Cox, the well-known surgeon of Birmingham, brought an action against the Company for the recovery of his fee, amounting to about £27, for surgical attendance on a person who had sustained severe injury by the carelessness of their servants. A verdict went in his favour, with leave to enter a nonsuit, if the Court should think that the Company was *not* liable for contracts of this nature, entered into by its officers without special license. The case is of such importance to all medical men practising near railways, comprising probably now about five-*sixths* of the profession, that it will be proper to give a brief recapitulation of the facts, and point out to what extent their interests may be affected by the recent decision of the judges. The following may, we believe, be taken as a correct summary of the facts:—

> "It appeared that an accident had occurred at a station to a man named Higgins in attempting to get into the train as it was in motion. On being taken up he was removed by the guard to a public-house at the station, where the station-master directed every care to be taken of him, and sent for Mr. Davis, a medical man living on the spot, who had been employed and paid by the company on similar occasions before. On the arrival of that gentleman, the patient was discovered to be in a most critical condition, and Mr. Davis hesitated to amputate his leg. He then spoke to the station-master, suggesting the propriety of telegraphing to Birmingham for Mr. Hodgson or Mr. Cox. Owing to some impediment the signals could not be conveyed, and the mail train was stopped, and Mr. Davis went by it to Birmingham to consult Mr. Needham, the superintendent of the company, to whom the station-master referred him. That gentleman expressed his readiness to do everything in his power to alleviate the sufferings of Higgins, and Mr. Davis went with his consent to Mr. Cox, who came to the station, where a carriage was attached by Mr. Needham's direction to the luggage train to convey him and Mr. Davis to Whittacre. On arriving there Mr. Cox took off the limb, and then returned to Birmingham, whence he paid some other visits to the patient, who ultimately recovered, and gave his evidence in court on the trial of the cause. On his recovery he brought an action against the company, who settled it by paying him £150. After this, Mr. Cox, Mr. Davis, and Mr. Silk, the landlord of the inn, brought their actions against the company to recover the amount of their respective demands for services rendered to Higgins under the above circumstances. At the trial, which took place before Mr. Justice Maule, at Warwick, a verdict passed for the plaintiff in the present action, for £27, with leave to enter a nonsuit, if the Court should think there was no evidence to go to the jury of any authority from the company to their officers to bind them by any such contract, Mr. Justice Maule observing in the course of the discussion, that "*if the defendants were in earnest in their defence, they had much better put up a notice at their stations, that if any accident should happen to the passengers, they would not give any medical attendance, and that if any of their officers employed a surgeon, they would not pay for the doctor.*" After this intimation the defendants' counsel did not "go to the jury," but consented to a verdict in all the three cases, relying on this point of law in the court above."

In our former remarks upon this case, looking at the necessity and urgency of the assistance rendered, and at the fact that the party requiring it was a poor man, utterly unable to procure surgical advice from his own resources, we considered that the decision of the Court above would have been in favour of Mr. Cox. We must admit that we arrived at this conclusion rather by a reference to the principles of common sense and justice, than of law ; and the suggestion thrown out by the learned judge who tried the case, strengthened the view which we then took. The learned judge even expressed a doubt whether the defendants could be serious in the line of defence which they had adopted, *i.e.* of non-liability. The Court of Exchequer have, however, taken a different view, and they have directed a nonsuit against Mr. Cox and the other two plaintiffs, on the following grounds :—

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* See vol. xli. page 607

"The real question here then was whether the particular servants who gave those orders had any authority to bind their employers on the general principles of the law by such orders. The Court was unanimously of opinion that *no power to enter into any such contracts* as those on which these actions were brought, was incidental to the employment *of a guard or superintendent of a railway company.* Those servants did not stand in any different position from that occupied by the servants of any other company or partnership, or of any individual. It could never be contended that if a passenger fell from the roof of a coach, and suffered a severe injury, the coachman had any implied authority to bind the owners of the coach to pay for any professional aid which he on the instant might think proper to call in for the relief of the passenger. Such a contention could not be maintained in the opinion of the whole Court; for, though it might be that the owners would be benefited by such contract, if they were liable to the passenger for the accident, it would, on the other hand, prejudice them if they were not so liable. A servant, therefore, clearly had no such power of pledging his masters, for he received from them only that extent of authority which was necessary for the discharge of the duties required of him under ordinary circumstances. When extraordinary events occurred which required an excess of those ordinary duties, it was the duty of the servant to apply to his employers for further powers, and he could not bind them if he assumed them without such application. This rule of law was universal, except in the case of a master of a ship, and the acceptor of a bill of exchange for the honour of the drawer. In "Hawtrayne v. Bourne," 7 M. and W., 595, it had been so decided, and it must now be taken to be admitted law, that the employment of a servant gave only those powers usually exercised by persons in such a situation; that being so, the defendants were not liable to these plaintiffs, on contracts entered into by their servants in excess of their usual duties, and it must not be supposed that any prejudice to the public would ensue from this view of the law, *and that parties injured while travelling on railways, would be less likely to meet with succour in cases of accident.* In all such cases the party injured would be entitled to recover from the Companies the medical expenses to which he might have been put through the negligence of the company. *No injury could therefore result to individuals by this action*; but if a contrary view be taken and enforced, the greatest possible inconvenience would ensue both to the public and the railway companies."

We agree with our contemporary the *Times*, that coming from one of the most learned judges on the Bench, this must be taken as a true exposition of the law ; but we question whether it is consistent with public policy or common sense; and, if only for the safety of the poorer class of travellers, who cannot travel with fees rolled up in their pockets, it ought to be speedily amended by the Legislature.* There are two parties who may be seriously affected by this decision—namely, railway travellers, especially of the poorer class, and medical practitioners.

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* Our contemporary observes, in reference to the comparison of a Railway with an old Coach establishment :—" It is clear that justice, with her proverbial blindness, can see no distinction between a coach and a railway, between a drunken pilot tumbling off the roof of a coach on his homeward voyage to Yarmouth, and a respectable judge shivered to atoms in a first-class carriage, while joining the circuit, through the neglect of a careless guard. The judges can see no difference between the two cases, and we hope that those learned persons will always travel with the 'regular fee' carefully rolled up in their pockets in neat packages, labelled, 'For a doctor —in case of accidents.' In what way, however, will the community at large stand affected by this decision? How does the analogous case of the coachman touch their interests? The cases are by no means *ad idem;* coach accidents are few and far between, and seldom dangerous; while railway accidents are of almost daily occurrence,

In the judgment, it is assumed that no prejudice will accrue to the public by this view of the law, and that parties travelling on railways will not be less likely to meet with succour in cases of accident, because if injured they will be entitled to recover from the companies the medical expenses to which they may be put through negligence. We must, with all deference to the learned judges, dissent from this view of the result likely to follow such an exposition of the law. Take the very case upon which the action arose. A poor man is seriously injured through the negligence of a Railway Company. A medical practitioner, who is called in by a railway superintendent, considers that the saving of life depends upon the immediate performance of a capital operation; but he wishes to have the advice of a more experienced man—a consulting surgeon of repute. According to this statement of the law, these medical practitioners, acting *bonâ fide* in a serious emergency, have no legal claim on the parties causing the accident, although the Company's servants may have authorized their attendance. Their fees and expenses must be taken from the penniless pauper, whose thigh may have been shattered by the accident; and, if he should survive the operation, *he*, *i. e.* the pauper, may then become plaintiff against the powerful Railway Company, and recover from them, if he can, the medical expenses to which he may have been put by the carelessness of their servants, &c. Take the case that the pauper so injured died after the operation, and some weeks' surgical attendance. The appliances of the best professional skill to save the man's life must go unremunerated. He is too poor to pay one farthing, and the only legal mode of payment now open to a professional man is that he must in some way or other obtain fees from the injured party or his friends, leaving him or them to recover them by an action against the Company. It does not appear to have been taken into consideration that a man who is the subject of a railway accident may die after an operation; and that it will then be out of his power to bring an action. Admitting that, under a recent Act, his widow or children still have this power, the practical question is—Are medical men to be left for the payment of their fees, to the chance of paupers successfully sueing a railway company? Such a conclusion is preposterous. Not to mention that an action of this kind, however justly instituted, may fail through technicality, want of adequate proof, or numerous other conditions which so unexpectedly arise when a *poor* plaintiff sues a *wealthy* defendant, we object *in toto* to the remuneration for medical services being made to rest upon any such contingency.

The results of this exposition of the law, so far as the poorer and most numerous class of railway travellers are concerned, will be, in the event of an accident occasioned by the negligence of the Company,—either that medical men must give their professional services gratuitously, or the injured persons must be left to die! It is no part of the common law of this country that professional services

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generally ending in the loss of limb—often of life. Then, again, though it might be that the careless coachman could not legally bind the Nelsons and Shermans of twenty years since, yet those respectable people seldom condescended in practice to repudiate the conduct of their servants, acting for the best under circumstances of emergency. A railway company, however, will repudiate anything and everybody, for the sake of a dividend; but we hope the day is not far distant when the statute-book will recognize the distinction of which the courts cannot now take judicial notice."

should go unremunerated; but the judgment in the case of *Cox* v. *The Midland Railway Company* directly tends to this. Medical practitioners are now plainly and explicitly told that they have no *legal* claim for payment, except upon persons who have no means of paying them! Will medical practitioners be found to attend paupers willingly, under such circumstances? Can they, in justice to their wives and families, give their valuable time to the relief of persons unable to remunerate them for their professional services? Will consulting surgeons of repute travel ten, twenty, or thirty miles in the dead of night, to amputate the leg of some pauper railway traveller, when they now know that, even when summoned by a superintendent, they have no claim for a fee, except upon the suffering party, who is too poor to pay it? We think *not;* and it appears to us that that law must be very defective which leaves members of the medical profession no alternative but to render the necessary surgical assistance out of mere charity, or to leave the injured traveller to a certain death! We had not before supposed that any solemn exposition of the law would have justified so serious a conclusion as that in a railway accident, caused by the carelessness of the Company, the preservation of a man's life would depend upon his ability to pay for the medical assistance thus rendered necessary! Such a rule might perhaps be applied to first and second-class passengers, but we do not see how in common justice it can be made applicable to the more numerous and destitute third class. Contrary to the inference drawn by the learned judges, we are inclined to think that those travellers who do not happen to have "regular fees" carefully rolled up in their pockets will hereafter be much "less likely to meet with succour in cases of accident." Tavern-keepers will become negligent, medical practitioners indifferent, and consulting surgeons living at a distance will be inclined to deliberate before undertaking a long night journey for the purpose of amputating a leg or an arm as a mere act of charity! We therefore anticipate that much injury will result to individuals (destitute of means) by this decision. The third-class passenger will die for the want of proper assistance; and the Railway Company may perhaps, under Lord Campbell's Act, be compelled to grant a good round sum by way of compensation to the widow and surviving children. The Company may then find that it would have been wiser to have paid a reasonable fee in the first instance, and have saved the man's life. The law is now, however, in their favour: they are not even bound, by the acts of their servants, to exercise common charity: this is expected from members of the medical profession only; for nothing would be more cruel in the eyes of the public than for a medical man to decline attending in a case of accident, because the person who was the subject of it had no means of paying him!

Such a state of the law ought not, in our humble judgment, to be permitted to continue. It is bad, either by leaving the lives of a large class of her Majesty's subjects unprotected, or by requiring from medical men the most important and responsible services without providing for payment. We are told that the greatest possible *inconvenience* would ensue both to the public and the Railway Companies by adopting any other than the view taken in this judgment. This may be to a certain extent true; but has it been duly considered that the view on which the decision is based, is calculated either to ensure the deaths of all third-class or destitute passengers who meet with serious accidents, or to extort gratuitously from medical men, services for which they ought to be liberally paid? These consequences appear to go for nothing, compared with the inconvenience which another view of the case would inflict upon Railway Companies. Was there no *mezzo termine* in these conflicting views? It appears to us that neither the public nor the Railway Company, could in any case be wronged if it were left to a jury to say whether the accident which led to the necessity of obtaining surgical assistance did or did not arise from the negligence of the Company. On proof of this negligence, whether the medical man had been called in by the Chairman or by a superintendent at a station, the Company should be made liable for all necessary expenses. It is absolutely necessary that an authority of this kind should extend beyond the managers; for these accidents may occur at remote stations, and the danger may be too urgent to allow time for procuring an order from those who are alone legally empowered to grant it. In the meantime, medical men will learn from this case, that, if they attend a poor man who is the subject of a railway accident arising from neglect or carelessness, they must give their attendance *gratuitously*. No authority short of an order from the Chairman or Directors will render the Company liable for the payment of medical expenses.*

The Registrar-General's table for the week ending Jan. 20, shows that the deaths are 176 above the winter average; but they are not so numerous by 103, as the deaths registered in the preceding week. The excess is to be chiefly ascribed to the great fatality of zymotic and pulmonary diseases. The deaths from cholera were 62, of which 27 occurred in the Tooting establishment,—6 among children removed from it to the London parishes, and 29 among other inhabitants of the metropolitan districts.

The cases of cholera in the metropolis are now so few, as scarcely to require special notice. On the 18th Jan., there were 4 cases and 1 death; on the 19th, 7 cases and 1 death; on the 22nd, 3 cases and 1 death; on the 23rd, 12 cases and 5 deaths; and on the 24th, 7 cases and 4 deaths.

Up to this date the cases and deaths are as follows:—

	Cases.	Deaths.
London . .	796	440
Provinces .	572	265
Scotland . .	7324	3183
	8692	3888

We regret to perceive that the disease is still very prevalent and fatal in Scotland.

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* The two following letters have been recently addressed to the Times in reference to this case:—

Sir,—Permit me, as the attorney for the plaintiff in this case, to state, that before I brought this action I knew that the company's servants had employed Mr. Cox, and that Higgins had been induced to compromise his claim for £150 only on condition that the defendants should pay the medical and surgical charges. The only defence I heard of was that Mr. Cox's charges were unreasonable. [Mr. Cox's charges for the amputation and attendance during the whole of the night were £21, and £3. 3s. each for two subsequent attendances, at a distance of 10 miles from Birmingham.] At the trial I had abundant evidence to show they were not, and Mr. Humfrey (defendants' counsel) said he had no complaint to make on that head, but that the defence was that the company's servants had no authority to employ Mr. Cox; and on referring to their undertaking to pay, I was answered that the company had not authorized their counsel to make any such promise.—I am, sir,

Your obedient Servant,
JOHN SUCKLING.

Birmingham, Jan. 20.

Sir,—I think it right, as the attorney of the poor man Higgins, who received £150 from the defendants by way of compromise for the loss of his leg, that the public should be acquainted with the fact that I declined to advise Higgins to settle the action for that sum unless the surgeon's and innkeeper's bills were paid; and upon the promise of defendants' counsel that the £150 should be "exclusive of medical and surgical charges and innkeeper's bill," which the company should pay, I was induced to settle upon such terms.—I am, sir,

Your obedient servant,
GEORGE CHILWELL.

Birmingham, Jan. 20.

Reviews.

The Retrospect of Medicine. By W. Braithwaite. Vol. XVIII. July—December, pp. 447. London: Simpkin and Co.

The Half-Yearly Abstract of the Medical Sciences. By W. H. Ranking, M.D., Cantab. Vol. VIII. July—December, 1848.

Monthly Retrospect of the Medical Sciences. By A. Fleming, M.D., and W. T. Gairdner, M.D. February — December. Edinburgh: Sutherland and Knox. 1848.

Medical readers have now a choice of three periodicals devoted to the record of the progress of medicine, under the name of Retrospects. Mr. Braithwaite's half-yearly volume is of older standing than the others on our list; and it has recently undergone many improvements. As it is printed in very small type, it comprises a very large amount of useful information. The articles appear to have been selected with care. We think the index might be improved by being made a little more full. Thus, the subject of cholera does not find a place in the Index. but falls under the head of Addenda in the table of contents; and the references given are merely to the names of authors, so that each article must be read in order to trace out any facts connected with the pathology or treatment of the disease. A retrospect cannot have too copious an index. The proper names should also, for the convenience of reference, be printed in small capitals or italics.

Dr. Ranking's Half Yearly Abstract, although of recent date, has already attained a very high standing, and we believe that it enjoys a very good circulation. The present volume embraces Practical Medicine, Surgery, and Midwifery. The articles have been judiciously selected from British and Foreign Periodicals; and they give a fair outline of the progress of medicine and surgery during the last six months of 1848. In addition to the extracts, this volume contains elaborate reports on Pathology and Midwifery by the Editor, and on Surgery by Mr. Ancell. With the usual Index, the Editor has given a general Index to the eight volumes of the Abstract now published. This adds greatly to the utility of the work.

The work of Drs. Fleming and Gairdner is a reprint of the monthly retrospect which has appeared in the Edinburgh Monthly Journal of the Medical Sciences for 1848. The articles are arranged in numbers according to the respective months. They are for the most part short, but nevertheless give a good sketch of the progress of medical science. This volume has the advantage of a very useful index.

Demonstrations of Anatomy: being a Guide to the Knowledge of the Human Body by Dissection. By George Viner Ellis, Junior Professor of Anatomy in the University of London, &c. 2d edition, rewritten. 8vo. pp. 464. London: Taylor and Walton. 1849.

This is one of the manuals for the dissecting-room, which are now so numerous that a student is puzzled to make a selection. The part before us, constituting only a portion of the volume, of which the remainder is promised in October next, embraces the descriptive anatomy of regions. It is printed in legible type, is concisely written, and has the advantage of being accompanied by marginal references, so that much trouble is saved to the dissector in searching for the anatomical description of parts.

Taschen Encyclopädie der Medicinischen Wissenchaften, II Bändchen. Physiologie des Menschen, von Dr. Moriz Fränkel. Square, pp. 294. Erlangen Enke. 1847.

This little volume is a continuation of the Cyclopædia of the Medical Sciences, of which Von Behr's Anatomy, translated by Mr. Birkett, constitutes the first part. We had occasion to speak favourably of the first volume; and, from our examination of the second, we see no reason to express a different opinion of its merits as a pocket compendium of Physiology. Although of apparently small extent, yet, from the width of the page and the closeness of the type, this manual contains as much as some English octavos. Dr. Fränkel, like a true German writer, has collected his facts from all contemporaneous sources, and he has succeeded in arranging them in a concise but intelligible form. So far as we have examined the book, it is carefully written; and, as a compendium of the science, it is well adapted for the use of the student.

Proceedings of Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

January 9, 1849.

J. M. Arnott, Esq., F.R.S., President.

Observations on the Disease of the Skin termed Keloides, with Illustrative Cases. By Erasmus Wilson, F.R.S.

In this paper, the author, after considering the etymology of the word "keloid," and the manner of its employment by Alibert—the relation of the disease to cancer, and the opinions of writers upon this question—the rarity of its affection—its etiology, and the more remarkable characteristics of the morbid growth—proceeds to point out the distressing symptoms by which it is often accompanied, with the view of determining how far an operation for its removal might be considered desirable. In those instances in which operative procedure had been adopted, the disease had returned in the cicatrix, and in one case, also, in the smaller cicatrices left by the sutures used in the operation. The conclusion to which the author arrives is unfavourable to operative procedure, and he observes, that in no case is an operation warrantable until every chance of relief by other means has failed. The author then passes in review the treatment recommended by those authorities who had written on the subject, and concludes with the detail of three cases of the disease.

All the cases occurred in healthy-looking men: in the first, the disease was developed on the presternal region, and also on the leg; in the second, on the shoulder and gluteal region; in the third, as in the first, on the sternum. It presented itself in the two forms designated by Alibert *keloide radiciforme*, and *keloid cylindracée*: in the first and second cases it gave rise to extreme inconvenience, and to much of the peculiar burning, stinging, and smarting pain which is characteristic of the disease; but in the third it was extremely reduced in size, having undergone a spontaneous cure.

On a Case of Cheloidea complicated with a Large Tumor in the Occipital Region. Illustrated with Casts and Drawings. By W. Oliver Chalk.

The subject of these local affections was G. G——, aged twenty-one, a native of Oxford, admitted into the Royal Sea-Bathing Infirmary, August 9th, 1845. The cheloid disease was described as being of unusual interest, of rare occurrence, and as having escaped the observation of dermatologists in this country. After a description of the tumor, and a minute account of the number, form, situation, and appearance of the keloid formations, the author observed, that cheloidea was the name given to this disorder by M. Alibert, in his "Monographie des Dermatoses" (p. 195, second edition), and was first recognised by this writer as being *sui generis*, and classed by him under two heads—"Kelis Genuina," "Kelis Spuria:" the former "a cancerous affection, characterised by a single excrescence, rarely by more; more or less hard when compressed by the finger; round or square; flattened in the centre, raised at the edges like a circular cushion, (en manière de bourrelet):" the latter, "the result of the inflammation of cicatrization, after a burn or ulceration—for example, scrofula or syphilis." The chief interest in G——'s case was derived from the number and variety of forms of the keloid excrescences,—which were singularly illustrative of Alibert's description of the malady, and the rapidity with which most of them disappeared under the general treatment directed to the restoration of the hepatic functions especially, by means of leeches, mercurial alteratives, tonics, &c., persevered in from September 2nd until October 26th. The author had no opportunity of seeing him after that period, but learned subsequently that he returned to the Royal Sea-Bathing Infirmary in the spring of 1846, and was then suffering from jaundice and great disturbance of the sensorial functions, together with ulceration and hæmorrhagic tendency of the tumor, which had assumed a malignant character, and that he died in the October following, in London, on his way home to Oxford.

Mr. Macilwain said that there was a statement in the first paper which he would allude to, as such statements had often been a source of annoyance to himself. It was said that the patient was in good health. Now he declared that such statements ought never to be made without the greatest caution and certainty on the part of the medical attendant. In all cases similar to the one related, he had found, on careful examination, that persons were not in good health. He mentioned a case in which he was consulted, the practitioner in attendance assuring him that the patient was in excellent health. On examining the sufferer, however, he found that there was not a single organ in the body which could be said to be in a sound state. Now this kind of carelessness misled us, and the disease was often intractable because we did not look to the general health of the patient.

Mr. CHARLES HAWKINS had been rather surprised at the statement in Mr. Wilson's paper, to the effect that this disease was a very rare one, and had not before been described. Now, as to the latter statement, he might remark that Mr. Cæsar Hawkins had fully described this affection in a lecture published in the MEDICAL GAZETTE some years since; and with reference to the former point, he (Mr. Charles Hawkins) had seen some cases of the disease, certainly more than three. In one of these cases, the patient was a young woman, apparently in excellent health; at all events, she looked well, slept well, and ate well. She had suffered previously from some disease of the chest, for which tartar-emetic ointment had been freely used. From the spots left by the pustules, consequent upon this proceeding, the disease under discussion developed itself, and when he (Mr. Hawkins) was first consulted, the patient had six tumors on the chest, varying in size from a sixpence to a half-crown. Lotions of various kinds were applied, but without any effect, and she experienced great inconvenience from the disease when, in her capacity of cook, she was obliged to be near the fire. She was fearful that the tumors would get larger, and applied to him to have some more effectual remedy applied. He advised her, however, to let the complaint alone, and in this opinion Mr. Cæsar Hawkins concurred. In another case, a man had applied to him with a keloid tumor over the sternum. The growth was removed by the knife, at the earnest solicitation of the patient. From the eschar the disease again presented itself, and was again removed. The third time it returned of a larger size, and no further interference was resorted to. In addition to these cases, he had seen two others, the particulars of which he did not at the moment recollect.

Mr. B. PHILLIPS had seen two cases, during the last two years, in the Westminster Hospital. One of these cases was very similar to the first one related by Mr. Hawkins. The patient was a young woman, sixteen years of age, and in apparent good health. Keloid tumors followed the irritation consequent upon the use of tartar-emetic ointment. She said the growths were painful, but it was probable she was fearful of the disease interfering with her good looks. She requested that some application should be made to them, to get rid of them. He applied some of the strong acetic acid; but as this was not successful, at her urgent request he removed the tumors with the knife. A considerable margin was left, and the parts were attempted to be brought together, but eventually healed by granulation. The patient left the hospital well. In a month afterwards, however, she returned with similar growths, one being three inches in length, and very like one of the tumors in Mr. Wilson's case. After much pressing, he again operated, leaving a still wider margin, and making no attempt to bring the divided edges of the wound together. The wounds healed by slow granulation. She remained in good health, but small tumors were again developing themselves. In the second case, the patient was a woman, twenty-five years of age, who had seven of these tumors on one mamma, and five on the other. Some of these were as large as a cherry, and of all shapes and sizes. He refused to attempt their removal by the knife, and to one he applied the chloride of zinc, and it was removed. Through another he made a crucial incision, and applied the potassa fusa to the wound. To another so incised he applied the nitrate of silver; but as soon as the parts in each of these healed, the tumors gave signs of growing again. After many other remedies, he gave Donovan's solution, but without benefit.

Mr. LLOYD did not think the disease so rare as the author of the paper supposed. He had seen many similar cases in his practice. He recollected one instance of it in a cook, in whom the disease was situated in the leg. She was subjected to a variety of treatment with benefit, and Mr. Lawrence eventually moved the growth freely with the knife. The disease never returned. In another case, the patient, a woman, had a keloid tumor over the sternum, consequent upon the use of tartar-emetic ointment. She applied to various surgeons: some said, remove it by caustic; others recommended the knife. He (Mr. Lloyd) advised that neither proceeding should be adopted, but prescribed a soothing application to be constantly used. In two years the disease entirely disappeared, and did not return. In another case no treatment was employed, and the disease eventually got well. He had seen many keloid tumors in connexion with malignant disease in other parts of the body. He thought these growths generally malignant, and if they ulcerated, would kill. This was not always the case, however, as they were sometimes of a benign character, and did not prove injurious to the patient. He believed, however, that in these cases there was generally something wrong in the constitution, and an attention to this formed a chief element in the process of cure.

Mr. E. WILSON regretted that he had fallen into some errors in writing the paper; the correction of these errors would serve to do away with some disagreement in the opinions expressed. Thus he should have said in apparent good health; and this would meet the objections of Mr. Macilvain. He had not referred to the lectures of Mr. Cæsar Hawkins, and was not aware that he had treated of this disease. He (Mr. Wilson) related the case of a man apparently in good health, and able to go about his usual business, but he was always in pain. Mr. Major, of Kettering, had sent this patient to him with the view of the growth being removed by the knife, but he (Mr. Wilson) advised that no operation should be performed. The growth was large, situated near the bone, and a sufficient supply of healthy skin could not be procured for restoring the parts. In addition to these objections, he said the disease was likely to return, and that, as in the cases of Mr. Phillips and Mr. Hawkins, in the cicatrices left by the incision. He had heard of a case in which the disease was cured spontaneously, and so he recommended only slight and soothing applications to the part, with remedies to improve the general health. He hoped the man under this treatment would recover. He alluded to a case, the subject of which was looking anxiously to the result of that night's discussion, to see if any one could suggest a cure for his disease. The patient could only lie in bed, and on his back; he was corpulent, and if he laid on either side, the fat pressed against the growth which was on his chest, and produced a stinging, burning sensation. As to the variety of the disease, he thought the discussion had proved it so. The French authors had related twenty-four cases; add to these the cases related to-night from the great hospitals, and the result will prove the complaint to be rare.

Mr. Chalk thought the disease to be a rare one. He agreed with Mr. Macilwain, that in these cases the general health was usually deranged, although the patients might say it was good. Thus, in the case of the man G——, related to the Society, he said his health was excellent, but an examination over the hepatic region resulted in a pain at that part for two or three days afterwards. As his general health improved the disease gradually gave way, and he left the infirmary well. He had since returned in a bad state of health, and jaundice and the disease had again made its appearance in an aggravated form.

Appendix to a case of "Successful Removal of an Ovarian Tumor complicated with Pregnancy." By H. E. Burd, Senior Surgeon to the Salop Infirmary.

The case of the patient referred to in this appendix is narrated in the nineteenth volume of the *Transactions*. The object of the author, in the present brief communication, is to state that the subject of the operation became pregnant the year following her dismissal from the hospital, went her full time, and gave birth to a strong male child. She is now again in the full enjoyment of unimpaired health.

PATHOLOGICAL SOCIETY OF LONDON.

Monday, January 15, 1849.

C. Aston Key, Esq., in the Chair.

Professor Fergusson exhibited

The upper end of a Thigh-Bone which had been removed by him from a girl, ten years of age, on the 13th inst., at King's College Hospital.

The patient had suffered from morbus coxarius for two years and a half; extensive suppuration had occurred, and the matter had been discharged at various openings around the hip and down the thigh; the head of the femur had been dislocated upwards and backwards, and could be felt through one of the openings. The preparation now exhibited was removed in the following manner:—An incision was made about five inches in length, from about the centre of which another short one was made at right angles, so as completely to expose the head and trochanter of the femur; a saw was now applied and carried through the trochanter major; two loose portions of bone were found contiguous to the head of the bone, evidently portions of that part, and were removed. The head of the femur had lost about one half its size, and with the greater portion of the neck presented the usual appearance of caries; the great trochanter was removed, partly with the object of promoting the healing of the skin around, and partly to prevent a free examination of the subjacent surface of the pelvis, which was found to be perfectly healthy; the bone also, in the situation where the saw was applied, appeared free from disease. A previous thorough exploration of the condition of parts, and the subsequent operation, were performed under the influence of chloroform.

Mr. Arnott exhibited

An Astragalus which he had removed in consequence of dislocation of that bone forwards and outwards; also two casts, shewing the shape of the limbs before and after the operation.

A man was admitted into the Middlesex Hospital, having fallen from a height upon the right foot; there was inversion of the foot, the outer edge of which only touched the ground when the leg was placed in the natural position; there was a remarkable depression in the situation of the inner malleolus, and a very distinct prominence was very evident at the anterior and outer part of the tarsus, over which the skin was tightly drawn, inflamed and abraded, leaving no doubt that the astragalus was dislocated forwards and outwards. Attempts were made under the use of chloroform, by means of extension and pressure upon the projecting bone, to return it to its normal situation, and it was at first thought with success; but subsequently, on the subsidence of all swelling, the parts were found in as bad a condition as before. After a time, the limbs being weak, distorted, and nearly useless, it was suggested to the man to have the astragalus removed: he consented, and Mr. Arnott dissected it out. Considerable difficulty was experienced in detaching it from the os calcis, to which it was firmly bound by the interosseous ligament: this was at last effected by forcibly tearing it away by means of a hook and pulley: the case went on favourably afterwards, and the man left the hospital with a very useful limb, the foot having perfectly regained its proper position and bearing.

Prof. **Fergusson** mentioned a somewhat similar case that had come under his care at the King's College Hospital, in which extensive suppuration and caries of this bone had resulted. He exposed the bone by a crucial incision, and instead of removing it, sawed off about a quarter of an inch of its upper surface, so as to leave only healthy bone behind. The wound healed favourably, and the patient went out with a tolerably useful limb.

Dr. **Ramsbotham** exhibited a

Dilated Bladder and Ureters, together with one Kidney, converted into a mere cyst, and the other much hypertrophied, removed from a child one month old, the result of intra-uterine disease.

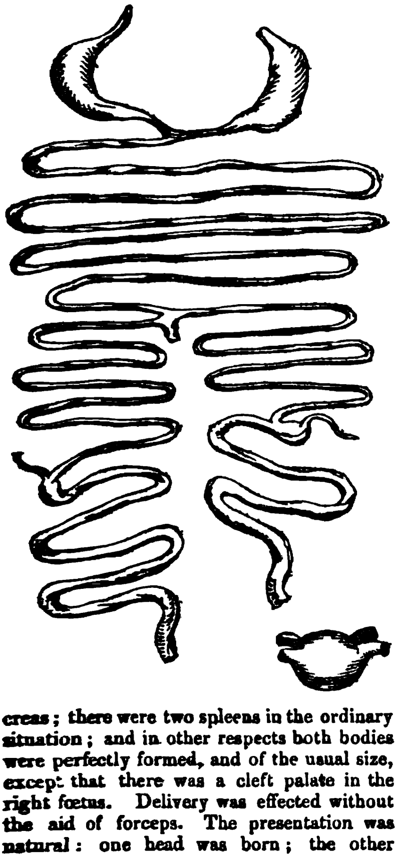
The child appeared tolerably healthy at birth, and went on pretty well for about a fortnight, when, without any very obvious cause, it began to lose flesh, and exhibit signs of disease, and in another fortnight it died. During life it seemed to pass water with freedom, and nothing abnormal was observed in this respect, either by the medical attendant or the nurse. On making a post-mortem examination the bladder was found hypertrophied, enlarged, and distended, with a considerable quantity of urine, and some pus. The ureters were distended to the size of the small intestines of a child. One kidney was reduced to the condition of a mere bag, and contained some pus; and the other was nearly double the normal size. No obstruction could be detected in any part of the urethra. The cause of this extensive morbid change in these parts was involved in some obscurity. It bore a striking analogy to cases occurring at the adult period of life, and following old strictures of the urethra: it must have existed for some period before birth, and might have resulted from the lodgement of a small calculus in the urethra. It is also a proof of the secretion of urine during fœtal existance.

Mr. **Critchett** exhibited a case of

Double Monster.

He had been requested by Dr. Ramsbotham to examine the anatomical arrangement of a double monster, which had been sent to him from Ivy Bridge, Devonshire, by Mr. Sherwell, an old pupil of the London Hospital. It comes under Otto's 2nd class "monstra abundantia," Order 1; genus 1, "monstra partibus mediis coalitis," and Geoffroy St. Hilaire's family of monomphaliens, genus sternopage." It consists of two full-grown and well-developed nine months female fœtuses, united together by the chest and abdomen. There are two sterna and four clavicles—the ribs being attached to one sternum anteriorly from both fœtuses, and the same taking place posteriorly, so as to leave one complete osseo-cartilaginous thoracic cavity, common to the two bodies. The abdominal walls were united in a similar manner, as low down as the points of entrance of the umbilical cord, so as to form but one abdominal cavity. Unfortunately the chest and abdomen had been forcibly torn asunder to assist the delivery, so that the parts within the chest were somewhat disturbed and lacerated. There was only a single diaphragm. One pericardial cavity, and within it a single heart of considerable breadth, from which there arose two aortas and two pulmonary arteries, which, however, had been torn away on one side with a portion of the muscular tissue of the heart. The aortas passed off from two opposite angles of the base from two cavities, which appeared to communicate, and supplied their respective bodies in the usual manner. The pulmonary arteries were likewise distributed normally, and the other viscera of the chest were also normal. In the abdomen there was but one peritoneal cavity; there was a single liver, of large size, and divided by a deep fissure into two nearly distinct lobes; on the right lobe was a gall-bladder: this liver was found in the right fœtus.

There were two stomachs, connected together by means of a tube from two to three inches in length. From the centre of this there passed off at right angles another tube corresponding to the small intestines: this, having arrived at a point corresponding to the junction of the jejunum and ilium, branched off, forming two tubes, each of which entered the cæcum, where is found a vermiform process; at the point of branching is a diverticulum about two inches long. The large intestines then pursue their ordinary course; there was a single large pan-



creas; there were two spleens in the ordinary situation; and in other respects both bodies were perfectly formed, and of the usual size, except that there was a cleft palate in the right foetus. Delivery was effected without the aid of forceps. The presentation was natural: one head was born; the other foetus was then partially detached with a hook, and turned, and thus both were delivered,—the head of one resting against the pelvis of the other.

Dr. Simpson has lately brought forward before the Obstetric Society of Edinburgh, the case of a double monster which occurred in the practice of Dr. Lyell, of Dundee. All the viscera in this case were perfect and distinct, except there being a single pericardium and a single liver: delivery was effected by means of forceps.

Otto, who has published details of above 600 monstrosities, at page 171 gives the particulars of fourteen cases very similar to the one now exhibited: in twelve of these there were two hearts; and in the other two, where the hearts were single, the viscera of the abdomen were complete, and in separate cavities; so that none of them seem to correspond in every particular with the one now brought forward, the peculiarity of this case seeming to be the single heart supplying to such perfectly-formed, and in most respects distinct, foetuses, and the singular manner in which the communication between the two stomachs was effected, and the one common small intestine is given off, though it would appear that nearly all such double monsters have some communication existing between the alimentary canals. There was a single placenta and cord.

Also a case of

Enchondroma.

This was a specimen of that form of enchondroma which is developed in the interior of bone: it occurred in the metacarpal bone of the ring-finger, and has also involved all the phalanges of this finger: it is about four years since it was first perceived; it was supposed to follow a severe pinch of that part of the hand; during the last six months it increased very rapidly. The lad from whom he removed it was about 14 years of age, and in good health: it projected considerably into the palm of the hand, as well as posteriorly, and had by its pressure caused considerable absorption of the metacarpal bone of the middle finger. The case has progressed favourably since the operation.

Mr. Toynbee exhibited

Preparations illustrative of the Structure of the Synovial Membrane covering the surface of adult articular cartilage.

This membrane, shown by the preparations exhibited to cover the entire surface of adult articular cartilage, is very thin and translucent. Its free surface is extremely smooth, and presents the fine polish which is general to the synovial surface of cartilage. Its attached surface is rough, and is connected to the articular cartilage by cellular tissue, portions of which are seen to adhere to its inner surface when examined by a high magnifying power. Towards the central part of the articular cartilage, or where it is subject to much pressure, this membrane is homogeneous, merely presenting here and there slight depressions, produced by the cartilage cells over which it has been placed. Towards the circumference of the articular cartilage, or where it has been subject to great pressure, the synovial membrane presents numerous fine transparent threads, giving it the character of areolar tissue. This membrane differs from the synovial membrane lining the capsular ligaments, and other parts of the articulations, in not possessing any epithelial cells on its free surface. Its presence can be best demonstrated by making a very thin flap of the articular cartilage parallel with its surface, and then, by means of a pair of blunt-pointed forceps, drawing it slowly, but with a firm hand, in the same direction as that of the section, when, as a general rule, it will be found that a layer of the membrane, varying from two lines to half an inch in length, will peel from the surface of the cartilage.

Mr. Toynbee also exhibited a specimen of *Disease of the Temporal Bone, Lateral Sinus, and Cerebellum, originating in suppurative inflammation of the External Meatus.*

The membrane lining the upper part of the external meatus was thick and soft, but not ulcerated. The bone which it covered was carious, as also were the central part of the squamous and the mastoid portions, including the lateral sinus. The mucous membrane of the tympanic cavity was healthy. The left hemisphere of the cerebellum was softer than natural, and a portion as large as a hazel-nut, near the lateral sinus, was very soft, and of a dark colour, and it filled up an orifice the size of a sixpence in the posterior wall of the lateral sinus, which had been produced by ulceration of the dura mater. The dura mater forming the anterior wall of the lateral sinus was entirely destroyed, and the surface of the bone was dark and carious. The lateral sinus was full of pus. This case is of interest,—firstly, from caries of the bone taking place without ulceration of the membranous meatus; secondly, from the disease spreading to the cerebellum without the existence of disease in the tympanic cavity.

Unreduced Dislocation of the Femur into the Thyroid Foramen.

Mr. Shaw exhibited a specimen of unreduced dislocation of the femur into the thyroid foramen. The head of the femur was contained in a new socket, the deepest part of which was formed by a cup-like process of bone, which grew from the margins of the thyroid foramen within the pelvis, and projected to the depth of about an inch into that cavity. The remainder of the walls consisted of the borders of the thyroid foramen, with irregular processes of bone thrown out from the inferior edge of the acetabulum, and the rami of the ischium and pubes. One of these processes in front partly encircled the head of the femur, and locked it in its place. Owing to bony growths around the margin of the articulating surface, the head of the femur was enlarged and altered in shape, and part of its surface had a porcelain-like polish, but otherwise both it and the cervix were sound. The greater part of the labrum cartilagineum of the acetabulum had become ossified, and from the superior edge a strong broad process of new bone projected downwards, with other processes growing from it in the direction of the cavity: the deepest part of the socket was traversed by prominent ridges of bone which intersected each other, and partly filled it up.

Dislocation of the Upper Head of the Fibula.

Mr. Shaw exhibited a specimen of dislocation directly upwards of the upper head of the fibula, in a case where the tibia had been fractured at its lower third, and had been united with much shortening: the fibula had also been broken in two places. The articulating surface of the head of the fibula was elevated to the same level as that of the tibia, and had become anchylosed in its displaced position.

Relative Position of the Fragments in Nineteen Specimens of United Fracture of the Bones of the Leg.

Mr. Shaw stated, that in the summer of 1845 he availed himself of an opportunity that he had of examining nineteen specimens of united fracture of the bones of the leg, which had been collected promiscuously, and it may be presumed had been treated after various methods. With three or four exceptions the fractures had been simple, and in fourteen had occurred at a distance varying between three and five inches from the lower articular surface of the tibia. He found that in sixteen specimens the distortion was of one kind, as follows:—1. The lower fragment was drawn to the outside; 2. It was on a lower level than the upper, or behind; 3. It was rotated outwardly, so that the inner malleolus presented anteriorly. The amount of distortion varied in the different specimens; but in none were any of the three characters just described wanting, except in one specimen, where it was nearly transverse, but not perfectly so: the line of fracture was oblique, the direction being from above downwards and inwards. Of the three cases which differed from the rest, two were fractures near the upper head, where little displacement had taken place; in the third the fracture was below the middle, and the lower fragments of both tibia and fibula were drawn to the inside.

NEWCASTLE AND GATESHEAD PATHOLOGICAL SOCIETY.

December 11th, 1848.

T. M. Greenhow, Esq., in the Chair.

Insanity. Post-mortem appearances of the brain.

Mr. Eccleston communicated the subjoined results of the post-mortem examination of three lunatics who had recently died in the Cumberland Provisional County Asylum.

No. 581.—A single man, æt. 40 years, was admitted into the Dunstun Lodge Asylum, Nov. 26, 1846. His occupation, religion, and habits, were not stated. He was brought there in a most cruel manner, his arms and legs being manacled; and, on inquiry, it appeared that his fetters were imposed upon him by his sisters, under whose care he had been since the commencement of his disorder. Some twelve years since, these wretches had kept him chained to a staple in the floor of an outbuilding, naked; incapable of walking, or even standing upright, and with no other bed than a few leaves and a little dirty straw. From this miserable situation he was extricated by a magistrate's order, being removed by force from his sister's custody. It seems that he was entitled to a share in some property, and selfish feelings connected with this circumstance may perhaps have prompted his unnatural relatives to retain him in their own hands. He is at present (the date of his admission) in an advanced stage of dementia, incessantly talking to himself unconnectedly; if asked a question, he may or may not answer it, but instantly wanders to other subjects. His bodily health, notwithstanding his ill treatment, appears good, but his legs are constantly bent, the flexor muscles being permanently contracted, owing to the constrained and crouching position in which he was held by his fetters. These had evidently not been unfastened for years, as the screws were all so rusty that they were obliged to be undone by cutting them through with a chisel. He is from the same cause unable to stand in the erect posture, and when seated on a chair, has a tendency to slip off, and resume his habitual crouching attitude. It will be a question whether benefit may not be obtained by the division of the contracted hamstring tendons, and thus facilitating the recovery of the power of progression. His tongue being foul, some strong purgatives were administered.

Feb. 15, 1847.—Since admission, his bodily health has continued good. An occasional purgative has been administered. To-day the hamstring tendons were divided (by Mr. Furness), with a view to an attempt to restore the power of walking, which is at present almost lost.

March 7.—Very much improved. He is now able to walk a short distance without any assistance; but of course his lower extremities are far from being straight. The spine is also curved forwards.

March 24.—Going on very well; limbs getting much stronger. His general health good.

April.—Had a slight febrile attack.

May 4th.—Bodily health much improved. He is a great deal stronger, and makes a very fair attempt to walk.

31st.—Goes on well, so far as his bodily health and strength are concerned.

June 27th.—Can now walk about; is clean, happy, and comfortable; very mischievous; bodily health good; mind not likely ever to be any stronger.

Jan. 19th, 1848.—From the last report up to the present time he continued much the same. A fœtid discharge has commenced from his left ear.—Let him have a purgative, and the ear be frequently syringed.

Nov. 10th.—Continued much the same up to this date, when the discharge from the ear suddenly ceased, and was at once replaced by phlegmonous erysipelas affecting the scalp and face. This soon resulted in the formation of extensive collections of purulent matter beneath the scalp, and also between the pericranium and the bones of the skull. Several long incisions were made down to the bone, to allow the free exit of the accumulated pus; compresses and a bandage were applied, to prevent, as far as possible, the spreading and re-accumulation of the purulent matter. In addition to this local treatment, his strength was supported by the administration of the usual stimulants, combined with a generous diet, and he appeared to be progressing favourably until the morning of the 25th, when he was discovered to have entirely lost the use of the right side. His mental faculties had apparently undergone no alteration. He remained in this state until the afternoon, when he died.

Autopsy sixteen hours after death.—The head was the only part examined. On removing the scalp, the pericranium was found entirely detached from the skull for the greater portion of its extent. On the removal of the calvarium, no deposit of purulent matter was found between the dura mater and the bone; but, on the division of that membrane, two or three ounces of very offensive curdy pus, of a greenish-brown hue, escaped. The surface of both hemispheres, particularly the left, presented the appearance of incipient gangrene: the whole of the anterior and middle lobes of the left hemisphere were of a uniform greenish tinge; and the same morbid appearance was observed, though to a less extent, in the corresponding lobes of the right hemisphere. The vessels of the pia mater were much congested, and those covering the diseased portion of the brain contained a quantity of flocculent pus, similar to that lying on the surface of the anterior lobes; and the veins in that portion of the pia mater which retained more of its natural appearance also contained similar flakes. The arachnoid was generally thickened and opaque. On making sections of the diseased portions of the brain, the discolouration was found to be confined to the cineritious substance, the medullary matter presenting its normal appearance.

No. 720.—A single man, æt. 30, was admitted the 4th November 1848, with acute mania. He continued in a state of great excitement till the 4th December, when he expired.

Autopsy twenty-four hours after death.—Head only examined. Dura mater very adherent to the calvarium; great congestion of the veins ramifying on the surface of this membrane, one of which, accompanying a large branch of the middle meningeal artery, had given way, causing an extravasation of blood to the extent of two or three drachms, which was spread over a surface of about three square inches. The two surfaces of the arachnoid were in some parts glued together by tolerably firm adhesions, and there was general opacity and thickening of that membrane.

No. 718.—An old woman, in an advanced stage of dementia, was admitted November 4th, and expired December 6th, 1848.

This case is interesting only as affording an illustration of the difficulty experienced in detecting the diseases of the insane. This patient continued to take her food well, apparently had her bowels regularly moved; and without uttering any complaint, or presenting any peculiarity in her habits, died during the night.

It was imagined that the disease thus rapidly fatal, would prove to be some form of apoplexy or cerebral disease; but on post-mortem examination the brain was found healthy, and a copious sero-purulent effusion in the peritoneal cavity (the effect of peritonitis) proved to be the chief morbid appearance, and was probably the cause of death.

LIVERPOOL MEDICAL AND PATHOLOGICAL SOCIETY.

December 28th, 1848.

Dropsy following Scarlatina.

Mr. Balman and Mr. Higginson presented to the Society the kidneys from two children who had died of dropsy after scarlatina. In both instances, the primary attack had been so slight that no medical attendance had been called in; but after an interval of about a month, severe and extensive anasarca set in, and being neglected by the parents until urgent symptoms made their appearance, both children died. The one had been comatose for some time before Mr. Balman was sent for; and in Mr. Higginson's case, a severe attack of pleurisy supervened shortly before death, occasioning so much effusion as to compress the left lung until it was heavier than water.

In both these cases the kidneys were enlarged and excessively congested. On cutting them, numerous bloody points were seen. Only one of the children had complained of pain in the loins.

From the discussion which ensued, it appeared that scarlatina had been very extensively prevalent in Liverpool for above twelve months, and attended with unusual mortality. Many of the cases had been attended with sloughing of the fauces at an early stage, which had proved fatal; but the greatest mortality had arisen from the subsequent dropsy. All the members coincided in stating that this had been most frequent after slight cases; generally, indeed, so slight that no medical man had been called in until the appearance of the dropsy. Mr. Parker, of the Industrial Schools, remarked that when the urine contained *much* albumen, he had observed that the cases generally ended fatally. In slight cases he seldom found much albumen in the urine. In one instance, a child was affected with measles at the end of a week from the disappearance of the rash of scarlatina. It was supposed to have been conveyed by some linen sent to its mother's house to be washed, from a patient suffering from measles.

Sir Arnold Knight and Dr. Turnbull each mentioned a case of scarlatina, accompanied at the same time by modified smallpox.

A case had occurred to Mr. Higginson in which the scarlet rash continued vivid for ten days.

Perforation of the Stomach in connection with Chlorosis.

Dr. Turnbull brought forward the case of a young woman who died from perforation of the stomach, illustrating the connection between this disease and perforating ulcers of the stomach, supposed to be frequent by some authors.

She was slightly chlorotic, and had been under treatment several months previously for very severe gastrodynia, generally occurring about an hour after taking food, and especially at the menstrual periods. On one occasion she had had an attack of vomiting of blood. She had been treated by the milder preparations of iron and aloes, and entirely recovered. Ulceration of the stomach was diagnosticated in this instance.

She was readmitted into the Northern Hospital with acute peritonitis coming on suddenly, for which she was copiously leeched and mercurialized, and afterwards tranquillized by opium; under which treatment she improved, and appeared likely to recover, when an attack of pleuropneumony supervened, and she died.

Post-mortem.—A perforating ulcer was found in the smaller curvature of the stomach, and near it was the cicatrix of an old ulcer in the mucous membrane, which had healed, the remains of the one which had caused the dyspeptic symptoms under which she had laboured when previously in the hospital.

ROYAL INSTITUTION.

January 19th, 1849.

Dr. Whewell on Polarity.

At this, the first of the Friday evening meetings for the year 1849, Dr. Whewell gave a lecture on polarity to a numerous audience. Dr. Whewell, in this lecture, did not bring forward any new views with regard to his subject, nor did he put it in a new light; but, in showing the importance of the idea of polarity in the development of various physical sciences, he gave an interesting history of the progressive discoveries of polarity in relation to those sciences. He noticed the successive researches of Gilbert, Oersted, and Gauss, in magnetic and terrestial polarity: showing that the notion of poles gradually gave place to that of polarity. He then referred to the discovery, by Malus, of the polarization of light, and to the progressive discoveries of the relations of polarity to electricity, galvanism, electro-magnetism, and, very recently, to crystallization; the last discovery connecting polarity with the chemistry of construction, while that of its relation to galvanism had connected polarity with the chemistry of decomposition. Dr. Whewell concluded with an interesting comparison of the two theories of M. Coulomb and Dr. Faraday, in illustration of an observation, that in the advance of science, theories apparently the most opposite often melt into each other.

Specimens of collodion, prepared by Mr. Taylor (of Vere Street), and the electro-magnetic apparatus, as well as the wires coated with gutta percha, employed by Mr. Walker in his recent experiments with the submarine telegraph, were exhibited in the Library of the Institution, with other objects of less interest.

Medical Intelligence.

THE CHOLERA IN BELFAST.

By the official report up to the 18th instant, we find that the number of cases, as well as deaths, has sensibly diminished. At our last report there were remaining under treatment 25. On Tuesday, new cases, 4; died, none; discharged cured, none. On Wednesday, new cases, 3; died, 4; discharged cured, 1. On Thursday, new cases, 3; died, 2; discharged cured, 3. Total cases since our last report, 10; died, 6; discharged cured, 3. Total cases in Belfast, 131; died, 61; discharged cured, 45; remaining under treatment, 25. Of the above, two occurred in private practice; both were respectable persons. The first recovered, the other died after 12½ hours' severe illness. A case in Holywood has also been officially reported. Thirty-five of these cases were among the poor in different localities in town—all the rest in the union workhouse. We understand that there have been two other cases in Ballymacarrett, which are not included in the above return, as they have not been officially reported.

THE CHOLERA AT DONAGHADEE.

It is reported that two decided cases of Asiatic cholera have occurred in Donaghadee. The first person attacked was a woman who lived in one of the filthiest parts of the town. Although medical assistance was rendered as soon as the case was heard of, yet the disease proved fatal, the poor woman having died on Saturday night last, about 10 o'clock. The other victim was a man who lived in the same house, and who died on Wednesday about 1 or 2 o'clock. Dr. Getty, the efficient medical officer in attendance, has not the slightest doubt of both being cases of real Asiatic cholera. The deceased man and woman (as is usual with the first victims of this fearful epidemic in almost every place) were not peculiarly remarkable either for good habits or love of cleanliness. We understand that a sanitary committee is about to be appointed to inspect the various filthy localities in the town, and see that all nuisances, &c. are removed.

THE CHOLERA AT NEW ORLEANS.

A despatch from New Orleans, dated Dec. 24, says, 79 new cases of cholera have occurred at the Charity Hospital since the 20th inst., and new cases are hourly brought in. Three merchants had died of it in the city. Considerable excitement prevails in consequence of the Board of Works having proclaimed the disease epidemic. At Memphis, 21st, two boats touched there having cholera on board, with two cases among the passengers.—*Brit. Amer. Journal.*

IMPORTATION OF THE CHOLERA INTO NEW YORK.—PROOFS OF ITS TRANSFERENCE BY VESSELS ACROSS THE ATLANTIC.

On Friday, December 2d, the ship "New York" arrived at New York, from Havre, 22 days out, with 330 passengers. The first case of sickness was reported to the captain when off Cape Sable, on the previous Tuesday morning—a child, taken ill at 8 P.M. and dying at 8 P.M.: a second child died with similar symptoms. On the following Wednesday and Thursday four men were reported sick, two of whom died suddenly with symptoms of cholera. A third died from what was regarded as a case of dysentery. Twelve were landed at the quarantine station, Staten Island, of whom three died. The resident physician, Dr. Whiting, refused to report these cases as cholera. A report from the Board of Health stated that 18 cases of a disease resembling cholera had occurred on board the above vessel, of whom seven died. On the 9th, no cases had occurred within the city limits. Dec. 18.—Additional cases had occurred among the German passengers of the ship "New York;" at this date 20 cases remained in hospital, with five new ones and two deaths. Dec. 20.—Four new cases; three among the inmates of the hospital, one proving fatal: this day, two cases occurred in Wellington Street, New York. Dec. 27.—In hospital, Staten Island, Dr. Whiting reports this day five cases among the inmates of the hospital.—*Brit. Amer. Journal.*

From intelligence brought by a vessel which left New York on the 10th inst. we learn that the cholera was spreading rapidly throughout the city. The disease had also appeared at Mobile and in Texas, where it had already caused many deaths.

IMPORTATION OF THE CHOLERA INTO LILLE.

M. Bally, at the sitting of the Academy of Sciences, Jan. 2nd, stated that the cholera had been introduced into Lille, by a vessel from Dunkirk, and, from subsequent accounts, we learn that it has spread rapidly among the inhabitants on the banks of the canal, in a foul quarter of the town.—*Gazette Médicale*, Jan. 6, 1849.

PROOFS OF THE COMMUNICABILITY OF CHOLERA.

In the Registrar-General's Report for Jan. 20th, a fatal case of cholera is recorded in the Hackney district, under the following circumstances:—The patient, a female, was a servant who belonged to the Islington Poor-House, and had been brought to Hackney to nurse the sick children from Drouet's Asylum at Tooting.

VERDICT OF MANSLAUGHTER AGAINST THE PROPRIETOR OF THE TOOTING PAUPER ASYLUM.

The inquest on the bodies of the children from the Tooting Asylum was resumed and concluded on Tuesday last. Additional evidence was received on the general healthy state of Tooting, excepting Mr. Drouet's establishment. Mr. Withall, registrar of births and deaths in Tooting, stated that he had no deaths from cholera registered except those from Mr. Drouet's establishment: these were about 150 in all. The population of the parish is above 3,000; the deaths registered are about 50 a year. The only circumstance requiring notice in the proceedings, is that there was the usual difference of opinion among the medical witnesses. One physician considered the disease to be Asiatic cholera; another that it was not cholera, but a species of asphyxia, brought on by the confinement of a large number of children in a space too small for a proper supply of air! To this it may be objected that asphyxia from bad ventilation, does not commonly produce rice-water evacuations, with vomiting and purging, &c. But this gentleman expressed a doubt whether there had been a single case of Asiatic cholera in London! The coroner, in summing up, limited the responsibility (if any) for the deaths to the proprietor of the establishment. The result was, that the jury returned a verdict of manslaughter against Mr. Drouet, the proprietor, and he was committed for trial accordingly.

MORTALITY OF GLASGOW IN 1848.

The abstract of the Glasgow Mortality-bill for 1848 has just been made up. The interments in the various burying places during the year amount to 13,179, being a decrease of 5,707 as compared with 1847, when the total number of interments was 18,816. The mortality of 1847 was augmented beyond all former precedent by the hordes of famishing Irish who were thrown into Glasgow during that year, bringing disease with them, which to a greater or less extent assailed the whole population. The mortality in 1848 would have been comparatively light but for the presence of malignant typhus in January of that year, and of cholera in December. The interments in the latter month (viz. December) were 2,425—a number, even taking the augmented population into account, unprecedented in the annals of Glasgow. Up to the 31st of December, the number of interments from cholera in Glasgow was 1,420—viz. 666 males and 754 females. Up to the same period the number of deaths from cholera reported to the Board of Health in London from the Faculty Hall in Glasgow was only 718—showing, of course, that the latter returns are grossly incorrect. It is well, however, that the real truth was not known during the most virulent stage of the malady, for it could only have increased the alarm and terror which already existed. It is now most pleasing to state that the returns from the "Faculty" are much more accurately given in, and that the disease has vastly abated—so much so that hopes are entertained that Glasgow will soon have a clean bill of health. One proof of the diminution of the malady is found in the fact, that the medical staff of the parochial board has been considerably reduced.

At one time the interments from cholera were upwards of 100 per diem. They are now from 15 to 17, and daily diminishing. According to the former census of Glasgow, the population within the municipal bounds of the city is now estimated at 355,800.

MEDICAL OFFICER OF THE CITY OF LONDON.

At a meeting of the Commissioners of Sewers on Tuesday last, Mr. Simon was elected medical officer under the new act for one year. A motion was made that the appointment should be divided among the eleven Union medical officers of the city, at a salary of £50 a year each. This was rejected, and it appears that there is to be only one medical officer acting under a Board of Health consisting of twelve members. It is singular that the act does not provide any means by which the city medical officer may procure the information necessary for the performance of his duties.

THE QUEEN'S COLLEGES IN IRELAND.

It is reported that among these institutions for education which are about to be opened, there are no fewer that *ninety* chairs to be filled, and for these there have been already *four thousand* applications! This, at any rate, shows that there is no scarcity of men who feel themselves qualified for professorships.

COLONIAL MEDICAL APPOINTMENT.

The Queen has been pleased to appoint Daniel Blair, Esq., Doctor of Medicine, to be Surgeon General for the colony of British Guiana.

SALE OF APPOINTMENTS TO HOSPITALS.—ELECTION OF A SURGEON FOR THE SUFFOLK GENERAL HOSPITAL.

On Wednesday last an election took place at this Hospital, for the vacant office of surgeon. The three candidates were—John Kilner, Esq., Samuel Newham, Esq., and William Heane, Esq. At five minutes before the closing of the poll the numbers were as follows:—Mr. Kilner, 272—(voters 149); Mr. Newham, 87—(voters 65); Mr. Heane, 77—(voters 26.) Immediately before the closing of the poll, Mr. Cream laid on the table 400 guineas, and tendered it as payment for 200 annual subscriptions of 2 guineas each, in compliance with one of the rules of the Hospital. It was accepted as such, when Mr. Cream gave the 200 votes in favour of Mr. Heane, who was consequently declared elected.

⁂ It appears that this mode of securing the election of a losing candidate is in strict conformity to the rules of the hospital. The objection to it is that the candidates do not start fairly. At the next vacancy it would be advisable to put the office up to auction, and knock down the surgeoncy to the highest bidder!

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 18th January, 1849:—William Griffiths, Standish, Lancashire—Thomas William Houchen, Wercham Hall, Norfolk.

Selections from Journals.

ON THE OPERATION OF TRACHEOTOMY.

BY DR. JAMESON.

The instruments necessary to be provided with, in addition to the ordinary scalpel, scissors, forceps, and retractor, are—a trachea pipe, a gum elastic catheter, and a small double hook: the latter I think a much more convenient instrument for laying hold of the trachea than a single one, or any other contrivance. The circumstances to be attended to in its performance are—

1st. The operator should bear in mind that his cutaneous incision be in the median line, otherwise the opening into the trachea will not correspond to it, a valvular opening being the result.

2d. Great caution is required in avoiding the thyroid veins, which, as well as the middle thyroid artery, constantly encroach on the median line.

3d. Great caution is required that the incision be not carried too low in the neck, thereby opening the fascia that is attached to the sternum, which helps to close the upper opening of the thorax, like a lesser diaphragm, whereby there is not only danger of wounding the vena innominata, but also great annoyance may be experienced in the subsequent steps of the operation, by the elevation and depression of the thymus gland.

4th. We should never open the trachea till we are certain that we have laid open the deep fascia that covers it, or we will surely have a valvular opening.

5th. The operator should be prepared, in case of the supervention of spasm, when the trachea is seized by the hook, to cut the piece out rapidly[*]; or, should the patient not breathe instantly after this has been done, the surgeon must lose no time in passing a gum elastic catheter into the trachea and inflating the lungs.

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[*] An ingenious instrument, called a tracheotome, was invented by Mr. Milliken in 1841. It is on the principle of the punch: it makes the incision, and at the same time removes a circular piece of the trachea.—Ed. Gaz.

6th. We should never enlarge the wound in the soft parts after the trachea has been opened, lest a flow of blood should pass into it, and cause the instant death of the patient.

7th. Blood may pass into the trachea the instant the opening is made into it, thereby producing violent cough, or even to such an amount as to asphyxiate the patient. In either case the elastic catheter must be had recourse to, and life may be saved.

8th. Should a lymphatic gland present itself along the course of the incision, and tend to obstruct the passage of air into the trachea, it may be removed without danger.

The subsequent treatment to be adopted is simple. Immediately after the operation, as the patient is generally in a more or less collapsed state, we should give small doses of warm wine and water, or camphor mixture. We ought also to place him in a warm bed with hot jars around him, and have a warm temperature kept up in the room.—*Dublin Quarterly Journal.*

BOOKS & PERIODICALS RECEIVED DURING THE WEEK.

The Examination of a Rejected Candidate at the Royal College of Physicians, London. By Edwards Crisp, M.D. &c.

Bulletin Général de Thérapeutique, &c. 15 Janvier.

Journal de Chimie Médicale. Janvier 1849.

Comptes Rendus. Nos. 25 and 26—Nos. 1 and 2, 1849.

On Infantile Laryngismus. By James Reid, M.D.

The British American Journal. Jan. 1849.

Journal of Psychological Medicine. Jan.

Oesterreichische medicinische Wochenschrift. Nos. 32 to 35.

Medicinische Jahrbücher. August 1848.

Annales d'Hygiène et de Médecine Légale. Janvier.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer	29·78
„ „ „ Thermometer[a]	46·6
Self-registering do.[b] .... Max. 60·2 Min.	30·

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 0·25.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 10·5° *above* the mean of the month! The mean temperature of the past week has nearly approached that of the month of April.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Jan. 20.

Births.		Deaths.		*Av. of 5 Wtn.*	
Males....	783	Males....	640	Males....	592
Females..	745	Females..	705	Females..	577
	1528		1345		1169

Causes of Death.		*Av. of 5 Wtn.*
All Causes	1345	1169
Specified Causes	1334	1164
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*..	536	221
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	51	54
3. Brain, Spinal Marrow, Nerves, and Senses	196	141
4. Heart and Bloodvessels	55	40
5. Lungs, and other Organs of Respiration	300	243
6. Stomach, Liver, and other Organs of Digestion	68	67
7. Diseases of the Kidneys, &c...	15	13
8. Childbirth, Diseases of the Uterus, &c.	14	9
9. Rheumatism, Diseases of the Bones, Joints, &c, ...	7	7
11. Old Age.....	59	73
12. Sudden deaths	13	14
13. Violence, Privation, Cold, and Intemperance	20	37

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	30	Paralysis	25
Measles	8	Convulsions	46
Scarlatina	87	Bronchitis	137
Hooping-cough ..	58	Pneumonia	111
Diarrhœa	24	Phthisis	112
Cholera	62	Dis. of Lungs, &c..	10
Typhus	66	Teething	16
Dropsy	23	Dis. of Stomach, &c.	9
		„ Liver, &c...	8
Hydrocephalus....	15		
Apoplexy..........	22	Childbirth	10

Remarks.—The total number of deaths was 176 above the weekly winter average.

NOTICES TO CORRESPONDENTS.

Mr. Broughton's letter next week.

Honestas.—The College sends no list. We can, therefore, only insert those names which are forwarded to us by the successful candidates themselves. If Honestas will furnish us with the name of his friend, it shall be inserted.

THE GENERAL INDEX.

We have to announce to our Subscribers that a General Index to the *first* 40 *Volumes* of the London Medical Gazette will, it is calculated, form a large Volume of about 700 pages. The cost of the Index Volume, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. Wilson and Ogilvy, 57, Skinner Street, will receive the Names of Subscribers.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

BY BRANSBY B. COOPER, F.R.S.

Surgeon, and Lecturer on Surgery at Guy's Hospital.

LECTURE XLVIII.

STONE IN THE BLADDER—(Continued.)

Difficulties that may impede the operation for stone—Impossibility of removing a stone, in consequence of narrowing of the pelvis—Breaking down the stone—Case. Difficulty arising from enlarged prostate, and from contraction of the bladder upon the stone—Calculus deposited in artificial sac—Cases—Immediate cause of death in cases of stone—Abnormal condition of the bladder, ureters, and kidneys—Stone in the female less frequent than in the male—Symptoms—Retention of urine—Case—Removing of calculus by dilatation—Lithotomy in the female—Foreign bodies in the vagina—Treatment after operation—Case. Importance of disease of the kidneys in relation to lithotomy—Bright's disease—symptoms of disease of kidney—symptoms of ulceration of bladder—Danger in lithotomy from constitutional, not local, causes—Cases.

Varieties of calculi, their chemical composition and character—Characteristics of urine indicating calculous tendency—Use of solvent injections—Concluding remarks.

THERE are still some difficulties to be described which may occur in the operation for stone, and one of the most formidable of these is a narrowing of the pelvis from rickets. Sir Astley Cooper describes an operation which he saw performed by Mr. Cline, in which the ischia were so abnormally approximated from distortion, that having introduced the forceps and seized the stone, he found it impossible to withdraw it; fortunately, however, after several attempts with a very strong pair of forceps, he succeeded in breaking the stone, and removed it piecemeal: a short strong lithotrite, such as I have already spoken of, would in such a case be very useful. Great enlargements of the prostate often lead to difficulty in the extraction of the stone, especially if it be abnormally hard: at the same time, and indeed under these circumstances, I have seen the prostate gland brought to the external wound in the attempts to remove the stone; and in some cases larger portions of the gland have been known to be torn away. I once saw Mr. Liston, in operating at the University Hospital, bring away a considerable portion of prostate gland in removing a large calculus: the patient recovered, however, without a bad symptom, and I am therefore disposed to believe, that although the gland was lacerated, its fascial capsule was left intact, so that no extravasation of urine followed the accidental lesion. Contractions of the bladder around the calculus frequently lead to obstruction in the withdrawal of the stone: in such, patience only is required, for the contraction generally results from the sudden escape of the urine when the bladder is cut into, if the forceps be not immediately forcibly employed, the muscles soon relax, and the cause of difficulty ceases.

The stone sometimes ulcerates from the bladder, and forms a pouch between the bladder and the rectum, in which it may partly rest as well as in the bladder. Mr. Hancock, of Charing Cross Hospital, lately met with a case of the kind, in which, in performing the operation of lithotomy, he encountered no difficulty until he passed the forceps, when he was unable to discover the presence of the calculus: the patient was put to bed, and subsequently died. Upon a post-mortem examination it was found that a large adventitious sac was formed between the bladder rectum, freely communicating with the former, and seemed to have been converted into the receptacle for the urine, while the bladder itself was much contracted, and contained the calculus.

My colleague, Mr. Cock, had lately a very similar case. A patient was admitted almost in extremis from protracted retention of urine: Mr. Cook proceeded at once to relieve the patient by puncturing the bladder per rectum, and drew off a large quantity of urine: the patient, however, died; and upon a post-mortem examination it was found that a large adventitious sac was formed between the bladder and rectum, precisely similar to that in Mr. Hancock's case.

A case of incarcerated calculus, which is very rare, lately occurred in the practice of M. Roux, at the Hôtel Dieu, Paris. The patient, aged 25, complained of pain and uneasiness in the urinary organs, chiefly in the bladder; and he described that during micturition he felt as if some burning substance were rolling along the urethra, until it rested in the glans, when the sensation became exquisitely painful. M. Roux several times sounded the bladder, and detected a hard resisting body fixed in one spot, and which upon being struck gave a sound perceptible both by the surgeon and those standing around. The stone appeared to be situated towards the anterior part of the organ, a little to the right of the median line. The lateral operation was determined upon in this case, and before the incision was made, the presence of the stone was again verified by percussion. The bladder being opened, no stone could, however, be found, although search was made by many different instruments; but the staff introduced through the wound, on being struck against the anterior wall, gave the same sound as before. M. Roux therefore renewed his search, which he continued for upwards of half an hour, but still without finding the stone: he consequently desisted, the patient was put to bed, and after the operation continued to go on favourably. The operation was to be repeated when the patient had sufficiently recovered from the effect of the first operation.

In the post-mortem examination of patients who have died from the operation for stone, the immediate cause of death is usually not very apparent, but a general diffused subacute inflammation of the peritoneum presents itself, with more or less effusion of flocculi of non-plastic matter, resembling very much the appearance in death from puerperal fever. Not unfrequently a sloughing of the cellular membrane is found passing from the prostate upwards, between the bladder and rectum, filled with a sanious effusion, and resulting from the fascia of the prostate having been cut through, and allowing of the extravasation of urine, and this is by far the most frequent cause of a fatal result in the operation for stone. A general diffused subacute inflammation is also found over the surface of the peritoneum, attended by an effusion of nonplastic matter, sufficient to produce a feeble adhesion of the folds of the intestines to each other, but being very different from that adhesion caused by acute inflammation. Hiccup and sickness, which are so frequently attendant upon this condition, indicate the extension of the inflammation to the peritoneal coverings of the stomach and diaphragm, and must be always regarded as a very dangerous symptom. The mucous membrane of the bladder is frequently found highly vascular, or its vessels replete with coagulated blood, giving the appearance of ecchymosis: sometimes it is also found ulcerated. The muscular coat is generally thickened, so as to encroach upon the cavity of the bladder and diminish its capacity, which may be a cause of the contractions of the bladder around calculi, to which I have already alluded. The ureters are not unfrequently found much dilated; and I have met with a case, in the examination of a gentleman who had died from stone, in whom the left ureter was impervious at its termination in the bladder, but was extremely dilated from that point up to the kidney, and a large diverticulum, of two inches in length, filled with urine, had formed in the ureter, just above its termination in the bladder. The kidneys are frequently the subject of disease in cases of stone: they may be either distended with calcareous matter or with urine, to an extent which may have led to the interstitial absorption of the whole of their secreting structure, or, as sometimes happens, they will be found much wasted; but such extensive disorganization must have been indicated during life, and would have precluded the performance of the operation.

Stone in the female.—Calcareous deposits, it is said, occur much less frequently in the female than in the male; but probably this assertion is not so correct as the frequency of the assertion would lead us to suppose; the rare occurrence of accumulation of calculus matter in the bladder may be easily explained from the shortness and large size of the meatus urinarius in the female. There is, in fact, no very apparent reason why the blood in the female should be purer, or why the kidneys should be better able to eliminate the due proportion of the natural constituents of the urine, unless it may be said, perhaps, that the usual mode of life is more regular, and the dietetic observances stricter. Sometimes, however, calculi do concrete in the female bladder, and the symptoms produced by their presence are very similar to those in the male subject, attended perhaps by more "bearing-down pain," in consequence of the irritation produced upon the uterus, and they suffer more from incontinence of urine, in consequence of the shortness of the urinary passages. Retention of urine is also a frequent result of stone in the bladder in the female, from the liability of the extraneous body to become impacted in the meatus urinarius, precluding the possibility of micturition, and requiring its immediate removal for the patient's relief. Some years ago, I admitted a patient (a girl of 12 years old) into Mary's Ward, who was the subject of retention of urine, and upon examination, discovered a foreign body within the meatus. On attempting to extract it with forceps, I accidentally pushed it back into the bladder. I found it impracticable to remove the stone at the time, but proceeded immediately to dilate the urethra by means of sponge tent; but this method produced so much pain that I was obliged to substitute the use of Weiss's urethral dilator, and, in a few days, was enabled to pass forceps into the bladder, and extract the stone without employing any cutting instrument. This mode of operation, if the stone be large, should not be adopted, as it would lead to the necessity for such dilatation of the meatus as probably to render it incapable of being restored to its natural size, and permanent incontinence of urine would be the result.

To remove large calculi, therefore, the patient should be placed in the same position as the male subject, and confined in the same manner, a straight staff is passed into the bladder, and held by an assistant; a knife is then introduced along the groove, and the incision made in the oblique direction downwards and outwards, between the vagina and ramus of the ischium, in the same direction as in the male, but of less extent; the forceps are then introduced, and the calculus removed.

I have twice performed this operation, and in both cases the patients recovered without any permanent incontinence of urine being the result; while in the case by dilatation related above, although the incontinence was not permanent, still it was many months before she had the power of perfectly retaining her urine. Many surgeons, indeed, recommend the operation of cutting in all cases, in preference to that of dilatation, in consequence of the much greater *liability* to incontinence in the latter mode; but I confess, from what I have been able to ascertain from the experience of others, I am led to believe that incontinence results as much from the one as the other operation, and am inclined to recommend dilatation where the calculi are small, and the use of cutting instruments where they are large.

Calculi in the female are frequently found to have concreted upon foreign bodies; and *Sir Astley* Cooper relates a case in which he removed from the bladder of a woman a calculus of which a large portion of a brass nail formed the nucleus. This calculus is preserved in the collection at St. Thomas's Hospital. The means by which substances have been introduced are too obvious to require any explanation. Mr. Cline's well-known case, in which a quantity of coal had been passed into the vagina, while the woman described herself to be the subject of stone in the bladder, is a further instance of that peculiar kind of depravity which not infrequently falls under the notice of the surgeon.

The medical treatment of the premonitory symptoms to the formation of stone, the means of relieving the pain arising from its presence either in the kidney, ureter, or bladder, and the plan to be adopted to prevent the recurrence of the concretions after the calculi have been removed, are precisely similar to those which have already been recommended in the male subject. The danger in the operation for stone in the female is infinitely less than in that of the male, as would be readily conceived from the different conformation of the external generative organs. I once assisted Mr. Costello in an operation for the stone in a female at Greenwich, in whom the stone was so large as to preclude the employment of lithotrity; and he therefore proceeded to the operation of lithotomy, on passing the forceps into the bladder and seizing the stone, from its size, the difficulty of removing it was so great that he intentionally laid open the rectum to facilitate its extraction. The patient recovered without a dangerous symptom, but had afterwards permanent incontinence both of urine and fæces. The stone in this case weighed seven ounces.

The after-treatment is much the same as in the male subject, but, in addition, requires the introduction of an elastic catheter, to prevent extravasation of urine into the cellular tissue around the vagina, In such cases, where the stone is too large to be removed by dilatation, and yet not so large as to preclude the propriety of its being crushed, the operation for lithotrity is highly applicable; but I think a lithotrite should be made expressly for the female, as the length of the instrument employed in the male would be inconvenient.

Although great care may have been taken in preparing the patient for the operation of lithotomy, and, at the same time, the utmost caution and skill employed in the operation itself, the termination of the case cannot be looked forward to with that confidence in success that we should be led to expect from a cursory consideration of the character and formation of the involved organs. It must, however, be borne in mind that the formation of the stone is probably the result of deterioration of the secreting urinary organs, which are themselves highly important to life in their office of depurators of the blood; and when they become the subjects of disease, the constitution must be proportionably affected.

We are indebted to Dr. Bright for the discovery of a diseased state of the kidneys, indicated by an albuminous state of the urine; and, from the knowledge thus obtained, the circumstances under which the operation ought or ought not to be performed are well marked, and our prognosis much more closely defined. It has been shewn that persons affected with this disease are particularly disposed to inflammation of the serous membranes; and it must be apparent that, under such circumstances, a surgical operation, particularly that of lithotomy, must produce a most dangerous liability to peritoneal inflammation. This view is borne out by the fact that, in a large proportion of the patients who die of peritonitis from the effects of this operation, the kidneys were in a state of disease. But even in cases in which peritoneal inflammation has not supervened as concomitant with disease of the kidneys, the patients frequently sink into collapse after formidable operations, without there being any attempt at reparation.

It is an important subject for question, whether in any case an operation should be performed on a patient labouring under "morbus Brightii." The existence of this disease up to a certain extent may not perhaps militate against the performance of a surgical operation; but wherever it exists, even in very slight degree, the prognosis is certainly proportionably unfavourable. When stone in the bladder is concomitant with this condition, lithotrity may often be employed as the least dangerous operation, and may be resorted to when lithotomy is totally inadmissible.

When pus occurs in the urine as a concomitant symptom with stone, it becomes very difficult to determine whether it be derived from the kidneys or from the bladder itself. In either case the operation ought to be postponed, and the normal state of the urine restored, if possible, by the use of medicines and strict attention to diet. If the pus proceed from the kidneys, the dangers of the operation are greatly enhanced, and the chance of recovery rendered very slight: indeed, if the condition itself does not yield to medical treatment, death is inevitable.

When pus proceeds from the bladder, it does not generally preclude the performance of lithotomy, even although the remedies adopted may fail in checking its formation; and, indeed, I have known the bladder to entirely recover as soon as the stone was removed from it. The important question in these cases would be, whether the kidneys or bladder, or both, were the subject of disease. This question is very difficult of solution, and can, I think, only be determined by closely studying the history of the case; for it generally happens that, in disease of the kidneys, the patient will have suffered a deep-seated pain in the loins long before any abnormal condition of the urine had been detected. Enlargement and tenderness in the lumbar regions may also have been present, indicating disorganization of the kidneys. When the bladder is the seat of the disease, it is preceded or accompanied by pain above the pubes, and for some time previously by mucous and earthy deposits in the urine.

These considerations lead me to the view that it is from constitutional, and not from local, causes, that danger is to be apprehended in the operation of lithotomy. Circumstances may certainly arise in the operation itself that may prove highly dangerous, such as severe hæmorrhage, laceration during the extraction of a very large stone, or from the necessary frequent introduction of the forceps; but even where death results from injury to the bladder, the fatal termination may in general be traced to reaction on the kidneys, and interference with their depurative function, and not to mere lesion of the bladder itself: not that I would be understood to inculcate a neglect of any of the usual and proper precautions taken in making the incision through the prostate in this operation; for if completely divided in a case where there was a tendency to kidney disease, death would be almost certain to follow; and even in a healthy patient there would be great danger. Where the individual is, however, in good health, it is surprising to see the amount of comparative violence the bladder will sustain without any constitutional disturbance being produced. I have lately had a patient, a gentleman formerly in the 5th Dragoon Guards, upon whom I have performed the operation of lithotrity for a large stone. It was proposed at first to employ lithotomy; but he determinedly objected to this, and I therefore crushed the stone. I have repeated the operation fourteen times, without at any time producing more than temporary inconvenience, and he has generally walked home from my house after the operation. I have always in this case prepared the patient by a dose of 40 drops of laudanum, given about two hours before each operation.

The following cases will, I think, be found useful, inasmuch as they shew the principal circumstances attendant upon a fatal termination to the operation of lithotomy, and are illustrative of the views I have just detailed:—

Edward Price, æt. 30, admitted, January 17, 1827, for stone in the bladder, which he has had 18 years. The operation was attended with considerable difficulty, from the size and friability of one of the calculi found in the bladder: it was as large as a small egg, and of a lamellated structure, so that when seized it broke down, and required several introductions of the forceps: besides this stone there was another, considerably less in size. The patient died the day after the operation, being unable, from the shattered condition of his constitution, to sustain the shock; indeed, the operation was only performed in consequence of the anxious desire of the patient. On opening the body, there was found extensive peritoneal inflammation, particularly in the lower part of the abdomen; the parietes of the bladder were thickened, as was also the mucous membrane, which was granular, and of a livid and dusky red colour. The ureters were tortuous, and as large as the finger, and the pelvis of each kidney were greatly dilated: the kidneys contained numerous large cysts; this was more particularly the case with the left, of the glanular part of which very little remained. The mucous membrane of the stomach and duodenum were also much thickened.

Stephen Pollard, æt. 53, admitted into

the hospital, March 7, 1828, had been subject to gravel for 7 years, suffering from all the symptoms of stone in the bladder. Operation performed March 18th: difficulty arose in seizing the calculus, which was ultimately detected behind the pubes. Soon after the operation, pain in the abdomen supervened, with quickened pulse and nausea, and the patient continued to become more and more depressed until his death, about forty hours after. When examined, the kidneys were found to be of moderate size, soft and flabby, and in an advanced stage of the light mottling deposit described by Dr. Bright: there was also inflammation of the peritoneum, and the cellular membrane behind the peritoneum was extremely lacerable, breaking down easily under the finger. The peculiar condition of the kidneys here mentioned has been noticed in several cases where the patients have sunk after the operation of lithotomy.

George Willis, æt. 48, admitted 8th May, 1829; had laboured under disease of the urinary organs for about 18 years. From the extent of disease of the bladder, this man was a most unfavourable subject for the operation: but it was, nevertheless, performed, at his own urgent desire, on the 14th July. After death the body was examined: the kidneys were found to be large, soft, and lacerable; there were two or three urinous cysts in the left kidney, and its substance was unusually pale; the ureters were less than natural; the liver was mottled, and contained a good deal of bile, and was rather soft and fatty: the bladder was of moderate size, flaccid and sacculated; it contained two small concretions of calcareous matter. In this case the patient never rallied after the operation, as if the constitution were incapable of any restorative effort. Lithotrity would here, perhaps, have afforded the best chance of success, but the narrowness of the urethra, from an old permanent stricture, precluded the use of the lithotrite.

John Perring, a sailor, æt. 44, admitted into the hospital, July 8th, 1829, for the purpose of having a piece of bougie removed from the bladder. The operation was performed, in the usual manner, on the 14th inst. In removing the extraneous body, it was found necessary to employ the scoop and two or three different kinds of forceps, on account of its awkward situation in the bladder, and the friability of the calcareous matter deposited upon it: the patient did well up to the 17th, when fever set in, and the accession of unfavourable symptoms went on until the 19th, when he died. Post-mortem examination:—The kidneys were the only organs importantly diseased; they were very soft, of a lobulated and granulated texture, and presented a mottled aspect when deprived of their investing membrane; there was not the least attempt at reparation either in the wound through the prostate, or in the perinæum. In this case there can be no doubt that the urine, if tested, would have been found albuminous; and the diseased state of the kidneys must be looked upon as the cause of death.

John Bartlet, æt. 22, admitted into the hospital, with stone in the bladder, August 20, 1837. Injured his loins about seven years previously, and afterwards suffered pain, and occasionally passed bloody urine. On October 9th, the operation was performed, and a flattened stone, about the size of a date, removed without any difficulty: soon after the operation, the patient was seized with great pain, shivering, and sickness; peritonitis supervened, and the patient died on the 14th inst. On examination after death, there was found diffused inflammation of the peritoneum, implicating that membrane where it covers the liver, stomach, and diaphragm. The lungs were congested, and the left kidney nearly gone, the pelvis and infundibula being much dilated: the right kidney was very large and mottled, but the bladder only slightly diseased.

Thomas Kenesley, aged 72, admitted into the hospital Oct. 3rd, 1839. On Nov. 12th, the operation of lithotomy was performed; but some difficulty was experienced in placing the patient in the required position, owing to the right knee-joint being stiff from the presence of a loose cartilage. After the incision had been made through the prostate, it was with considerable difficulty that the stone was removed. The patient gradually sank, and died on the 14th inst. On post-mortem examination, the kidneys were found of the ordinary size, surrounded by a large quantity of fat, very flabby, exsanguine, and the central portions slightly diseased. The ureters were both dilated to twice their natural size, and contained urine, which was coagulable by heat. The liver was also very small, pale, and flabby. Some of the other viscera presented slightly abnormal appearances; but to the diseased state of the kidneys must be ascribed the rapid prostration under which the patient sank immediately after the operation.

In the course of my practice I have performed the operation of lithotomy on 124 different individuals, and my average of success has been 14 out of 15. A large number of these were, however, young persons, and in them the danger is far less than in patients who have attained the age of puberty. I cannot help thinking that the operation of lithotrity is fast superseding that of lithotomy; and although the above account would encourage us to look forward with some confidence as to the result of the latter operation under commonly favourable circumstances, I do not consider that a surgeon ought ever to resort to it, and incur the hazard, which to a certain extent must be present, in any case in which the safer operation of lithotrity can be employed.

The component parts of urinary calculi are necessarily the same as of those deposits which are found to take place from the urine upon cooling, or from any other cause which renders it incapable of holding them in solution. But calculi derive their particular name according to the preponderating ingredient entering into their composition; for it is not to be supposed that they are frequently met with perfectly pure, to the exclusion of other substances: so that when we speak of a uric acid or phosphate of lime calculus, we intend to imply that such a stone contains more of these substances than of any other.

The following are the chief varieties of calculi:—

1st. *Uric or lithic acid.*—This is the most widely diffused of all the constituents of calculous concretions: it is of a reddish brown or fawn colour, hard, inodorous, and frequently of an ovoid form, or sometimes flattened, smooth, or, may be, studded with tubercles, which are also smooth, and never present the rugged processes so common in other calculi. It saws hard, and the detritus is of the same colour as the calculus itself, but lighter internally. Uric acid calculi are composed of concentric laminæ, of a crystalline texture. The kind of urine which pourtrays an excess of uric acid is described by Dr. Golding Bird as being principally of a deeper colour than natural, of a specific gravity above 1.020, and of an acid reaction great in proportion to depth of colour.

A pure lithic acid calculus, when powdered and digested in dilute caustic potash, is entirely dissolved, and on adding hydrochloric acid, a white precipitate immediately falls.

Whatever may be the preponderating ingredient of a urinary calculus, the nuclei are most frequently composed of uric acid, or one of its salts; and, according to Dr. Golding Bird, out of 394 calculi preserved in the museum at Guy's Hospital, 269 were found to have nuclei composed of uric acid or urate of ammonia. The utility of examining the urine in cases where there is a tendency to deposition from that fluid, is in no instance better exemplified than in those in which uric acid preponderates; for having ascertained *the fact*, the remedies are clearly indicated, and their administration generally effective. Diaphoretics produce the best possible effect, and Mr. Copeland Hutchison has stated it to be his opinion that the extraordinary freedom of sailors from calculous affections arises from the closeness and heat of their sleeping places; in consequence of which they are, during the night, bathed as it were in perspiration. I confess I am rather sceptical on this point, and believe that sailors often become invalided in consequence of thier incapacity to perform their duties from the premonitory symptoms of stone, or even at the first formation of the calculus, for I have on several occasions performed the operation of lithotomy on sailors, and remember that Sir Astley Cooper once told Mr. Copeland Hutchison that he had himself operated upon more cases of stone in seamen, than that gentleman had statistically reported as having existed in the navy during a period of fifteen years.

Great attention to the digestive functions constitutes a point of much importance in the prevention of deposits of uric acid. Highly nitrogenized food should be avoided, and alkaline remedies prescribed. Carbonate of soda and potash, with infusion of gentian, is an excellent remedy, not only for restoring the tone of the digestive organs, but also for preventing the deposit of uric acid. But should it already have occurred in the form of "gravel," the borate of potash, with cream of tartar, is the best solvent that can be administered; and should there be much irritation concomitant with the other symptoms, Dover's powder should be combined or given during the use of the other remedy. So far as my own experience goes, I am inclined to believe that the uric acid calculus produces much less constitutional disturbance than other calculi, and that patients recover more rapidly when cut for the former than in any other cases.

2nd. Urate or lithate of ammonia varies from a fawn to a light gray or clay colour, but is sometimes of a yellow tint, presenting a dull earthy appearance, amorphous, having no signs of crystallization upon fracture.

The urine containing a preponderance of this constituent is generally of a lower specific gravity deposited than in the uric acid, but rises higher in the scale in proportion to the colouring matter (purpurine) it contains. It also becomes turbid on cooling, but clears rapidly again upon the application of heat.

Urate of ammonia calculi frequently contain soda, and a trace of phosphate of lime. Under this composition they seem to have a tendency to form only of a small size. And in the case in which Sir Astley Cooper removed 142 calculi from the same individual, *by means of Mr. Weiss's forceps*, they were of this nature.

3rd. The *phosphate of lime, or "bone earth" calculus*, is of a pale brown colour, frequently of a smooth surface, as if polished. Internally, it is disposed in laminæ, very easily separable from each other; and they yield readily to the saw, producing a white powder. They are rarely found pure, but those which approach nearest to purity seem to be found in the prostate gland, especially in old people.

The urine which contains such a preponderance of phosphate of lime that its free acid cannot hold it in solution, is turbid, generally pale in colour, and minute amorphous granules can be seen floating in it, which are readily dissolved by hydrochloric acid. Urine, therefore, containing the earthy phosphates to such an extent as to lead to their deposition will be found to present an alkaline reaction, or is at any rate neutral.

These calculi most frequently form in old persons, when the elimination of bone earth from the blood ceases to be vigorously carried on by the capillaries of the osseous system. But why these concretions should have a tendency to form in the prostate gland, and not in the bladder, is a point yet remaining shrouded in mystery.

4th. The *triple calculus, or ammonio-magnesian phosphate*, is usually of a clearer white, and more spar-like appearance, than the phosphate of lime: it is not laminated, and is easily reduced to powder. Its] surface is generally uneven, and frequently covered with minute shining crystals, which are also found between its interstices. Such calculi are scarcely, if ever, composed wholly of the ammoniaco-phosphate of magnesia, but it is generally mixed with the phosphate of lime, constituting what is termed the *fusible* calculus.

5th. *Fusible calculus* resembles physically a mass of chalk disposed in laminæ, which may be in some parts separated by shining crystals of the triple calculus. In some instances these calculi will be found of a spongy texture: they are frequently of a large size, and moulded in the form of the cavity of the bladder. This calculus is termed fusible, from its readily fusing before the blow-pipe.

Urine containing deposits of the phosphates has much the appearance as if a dense cloud of mucus was floating in it, which becomes immediately clear upon the addition of a little hydrochloric acid. Such urine is generally alkaline, but not invariably so; for, although the triple phosphates are so readily soluble in weak acid, the presence of the hydrochlorate of ammonia in the urine may afford an acid reaction: this explanation has been made by Dr. G. Bird.

Urine containing in solution the earthy phosphates becomes turbid on the application of heat; and this phenomenon must not be mistaken for the presence of albumen, the distinction being readily proved by the addition of a drop of nitric acid, which directly dissolves the phosphatic deposit, but tends rather to encourage the turbidity of an albuminous deposit.

6th. The *oxalate of lime or mulberry calculus* is usually of a dark brown colour, with a rough tuberculated surface; whence its name. Upon being cut into, it varies in colour; its laminæ, which are rarely in a concentric form, being alternately lighter and darker like the surface of the "fortification agate." The specific gravity of these calculi is usually great: they offer considerable resistance to the saw, and the powder which falls is of the colour of the aggregate mass; but the intensity of tint differs very much in different specimens.

The urine containing oxalate of lime is, according to Dr. Bird, generally found of an amber colour, sometimes quite clear, at others more or less turbid: its specific gravity is low, decreasing from the normal state in proportion to its paleness. Epithelial scales are almost invariably found in the urine of patients the subject of calculus of this nature, and and probably attributable to the roughness of the surface of the stone. The presence of the octahedral crystals in the urine, which indicate oxalate of lime, is frequently found in the urine of dyspeptic patients, and readily yield to judicious dietetic observance, and therefore proves that the presence of these crystals is no evidence of the existence of stone. The common garden rhubarb, taken as food, will always produce the presence of these crystals; and, therefore, in persons having a tendency to calcareous formations, this vegetable should be prohibited. This is also the case with the onion, which is found by Dr. Bird to contain quite as large a quantity of oxalic acid, although it has been generally allowed to be freely taken by calculous subjects.

7th. *Carbonate of lime calculus* is very rarely met with, but may be readily recognized by its snowy whiteness, and its dissolving in weak acid with effervescence.

8th. The *cystic oxide calculus* is a very rare species of concretion. In physical conditions they vary very much, some being quite smooth, and others tuberculated. In colour, they are usually of a yellowish-white externally, and of a sea-green internally; the latter colour sometimes pervades the whole mass, and is highly characteristic. These calculi are generally remarkable for their purity; and this has induced Dr. Marcet and Dr. Prout to believe that the cystic oxide is never accompanied by the matter of any other concretions, or capable of changing into any other. But Dr. Golding Bird doubts the accuracy of this opinion, from the analyses he has made of the section of a calculus in the Museum at Guy's Hospital, in which a lamina of cystic oxide encloses a nucleus of oxalate of lime, being itself surrounded by a zone of urate of ammonia, mixed with a considerable quantity of cystine. (No. 2168) Guy's Museum.

The urine indicating the diathesis for this concretion is usually of a pale amber colour, and sometimes of an apple-green tint, which is very characteristic: it is also of low specific gravity, and generally turbid, depositing a reddish muddy cloud, which clears on the application of heat, probably from the presence of lithates.

9th. *Zanthic oxide* is another species of calculus, and which was first described by Dr. Marcet. This concretion is of a reddish-yellow colour, soluble both in acids and alkalies; and, if portions of this stone be dissolved in nitric acid, and evaporated, the residuum assumes a bright yellow colour, to which the concretion owes its name, and by which it is characterized.

10th. The *fibrinous calculus*, according to Dr. Marcet, is of a yellowish brown colour, resembling bees-wax, and of somewhat the same degree of hardness: the surface is uneven, but not rough; the texture fibrous; the fibres radiating from the centre, and somewhat elastic to the feel. When exposed to the flame of a spirit lamp, it takes fire, swells, blackens, and ultimately becomes converted into a spongy carbonaceous mass, and emits an animal smell, like that of meat. Indeed, in every property, this concretion corresponds to fibrin; for, when boiled in dilute acetic acid, it is dissolved, and, upon the addition of the phosphate of potash, a yellow precipitate is formed.

The subjects of this concretion have been generally liable to hæmaturia; and I think there can be no doubt that the fibrin of the effused blood forms the nucleus of the calculus: they generally spontaneously pass through the urethra, and thus the patient becomes relieved. I have known patients the subject of stone in the bladder pass such substances, probably resulting either from the effusion of blood into the bladder, or from the deposition of lymph resulting from the irritation of the stone. They can scarcely be said, therefore, to be calculi, but ought rather to be considered as causing the deposit of the urinary constituents upon them.

11th. The *alternating calculus* may be composed of various species in concentric layers—as, for instance, uric acid may form a nucleus, phosphate of lime surround it; a deposit of oxalate of lime enclose that; and lastly, an outer layer of the fusible calculus surround all. Such compound calculi, are not at all unfrequent, the distinct composition of the strata depending upon the changes in the health of the patient, and perhaps also on the remedies prescribed.

From the facility with which urinary calculi are dissolved in chemical menstrua, the hope has naturally arisen in the minds of surgeons, that remedies might be applied, either through the medium of the blood, or by injections into the bladder, so that the actual contact of chemical agents upon the stone itself might remove the extraneous matter; but, as I have already said, all such attempts have hitherto failed, in consequence of the strength of the reagents required to produce the desired effect being far more powerful than the bladder is capable of sustaining: the remedy becoming far worse than the disease it is intended to remove.

CLINICAL LECTURES.

By Samuel Solly, Esq., F.R S.

Senior Assistant-Surgeon to St. Thomas's Hospital.

Lecture II.

DISEASES OF THE URINARY ORGANS.

Gentlemen,—We have now ample material to continue our observations on the urinary organs, as you must have observed in your visits with me to the wards since we last met for lecture. Before we direct our attention to new cases, we will say a few words touching some of our old friends. Kain, the man on whom I performed the operation for lithotomy, recovered rapidly: the wound healed in about ten days, but he has suffered from incontinence of urine; for this symptom, which is not a common consequence of lithotomy in the male, I have prescribed the Extractum Nucis Vomicæ, having found it very useful in cases of incontinence from other causes. Many of you will, I think, remember a case that I had, in Lazarus Ward, about six months ago, where the patient, about 20 years of age, wetted his bed every night. This man got perfectly well under this medicine. I had a similar case in private practice just about the same time equally successful. I give very small doses at first, gradually increasing them. Kain took the 8th of a grain three times a day; he is now taking a grain, and he is improving, though slowly. He can retain his water much better than he could a week ago.

The fistulous opening of the urethra in front of the scrotum, in Carter, did not diminish in size, notwithstanding the repeated application of caustic and tincture of iodine. You are, of course, aware that the difficulty which occurs in the treatment of these fistulæ is from the presence of the urine. This acrid fluid, acting as an irritant, prevents the sore from throwing out healthy granulations, and it stops the adhesive process. There is always more difficulty in healing a fistulous opening of the urethra in front of the scrotum than behind it. This arises from the deficiency of subcutaneous cellular tissue, and the thinness of the skin: a variety of expedients have been tried to effect this purpose. But to Professor Dieffenbach, of Berlin, is due the credit of having proposed a remedy for this difficulty. He pointed out the necessity of opposing a larger surface for the adhesive action than the edge of the divided skin. He, therefore, instead of merely paring the edges of the wound, dissects up the skin, so as to bring a wider extent of surface into contact. My colleague, Mr. Clark, had a very successful case which he adopted this plan: you will find an account of it in the 28th vol. of the Medico-Chirurgical Transactions. On Saturday last, I made a longitudinal incision through the skin, commencing a quarter of an inch above the opening, carrying it downwards in the mesial line, through the centre of it, to the same extent below. I next raised the integuments on each side, and then, after making two parallel incisions to relieve any tension that might occur from erection of the penis, I raised and brought together over the hole the under surface of the integument I had dissected up, and retained them in apposition by means of the quill suture. After this I introduced into the bladder a full-sized catheter, and retained it there. I am sorry to say that the operation entirely failed, and that the urine comes through the wound as bad as ever.

The next case of stricture for our consideration is very instructive, as you will find when I read it to you. You have already seen enough of its treatment in the ward to judge of its importance, and I hope therefore to feel much interest in it.

J. S., policeman, aged 55, came under my care in 1842, suffering very severely from stricture, and especially from that most troublesome consequence, irritable bladder. He said it was most distressing to him; that he was obliged to leave his beat every five minutes to make water. He remained my patient in the hospital about six months, and left apparently quite well. On this occasion I had very great difficulty in removing the stricture, and I was not then so much in the habit of using the catgut bougie: I employed the caustic bougie twice, as recommended by Sir Everard Home; it was very successful in this case, but is a dangerous weapon, and I do not recommend it to you; I believe that it often does a great deal of harm. From 1843 till the present time I never saw him as a patient, though I occasionally met him in the street, when he reported himself to me as well.

On the 5th of December, 1848, he was admitted into Henry's Ward, suffering with fistula in ano, stricture, and scrotal abscess. He gives the following account of his case:—

He says that he left the hospital quite cured in 1843, since which time he has had no recurrence of the disease until about 18 months ago, when he was attacked suddenly on his beat with intense pain, which he describes as if a penknife were run into his perineum; he was obliged to desist from duty, and was attended for five months by a surgeon: at this time his water did not dribble away, he could always retain it, but when he wished to evacuate it, it came away in a small stream, and caused him great pain. Under this gentleman's treatment he became quite well, and returned to his duty, which he continued for five months, when he was attacked in precisely the same way as before, with intense agony in the perineum, and inability to pass his urine, although he says a quarter of an hour previously it came away as well as ever it did in his life. He has been ill ever since, under the treatment of the same surgeon. He says that he was getting bettter, his surgeon using a No. 6 bougie, until one morning he used a large catheter, No. 12; that he passed this into the bladder, and drew off some water, but that it gave him excruciating pain, so much so that the surgeon was obliged to remove it before he washed his hands.

He says that after this an abscess formed on the left side of the rectum, which was opened about four weeks ago, since which his urine has oozed through the wound. He had no fistula before.

He has also an abscess in the scrotum, which has been coming on for about nine weeks. When he passes his water it comes away in a small stream, frequently broken, and is accompanied by great pain: the greater part, however, passes through the wound made in operating on his fistula.

This case, gentlemen, teaches us one most important point in regard to stricture—namely, that a patient must never consider himself cured for life: a stricture is never cured permanently, it will always return again if means are not taken to prevent it. A man who has once had stricture ought either to learn to pass a bougie for himself, or have one passed from time to time by a surgeon.

It also illustrates one of the consequences of stricture—namely, abscesses in the neighbourhood of the urethra, either in front of the deep perineal fascia, or triangular ligament in the perineum, or behind the deep perineal fascia, by the side of the rectum. Poor Stevens had both these miseries combined.

The immediate cause of such abscesses is a point of great interest and importance. Sir B. Brodie considers that they are invariably preceded by ulceration of the mucous membrane of the urethra; the ulcerated point may be but of pin-hole size. It allows a drop or two of urine to escape, and this sets up inflammation in the surrounding cellular tissue: suppuration and abscess soon follow.

Such ulceration is usually the effect of stricture, and if the stricture is a very firm one, and the opening very small, considerable extravasation of urine, and subsequent sloughing, will be the consequence; and I dare say we shall not wait long before we have a case in the House to illustrate this sequence of events, especially at this season of the year when libations to the jolly god are indulging in, and the urinary organs have double duty to perform.

But we sometimes meet with abscess in perineo, communicating with the urethra, where there is not nor has been any stricture; and we have a case in the House which is an instance of it, to which I shall soon refer.

To return to Stevens. I found this man on admission suffering a great deal. I attempted to pass a catheter, but as it would not enter easily, I desisted. Finding that there was not a free exit for the matter through its outlet over the tuber ischii, I dilated this fistula, and divided the sphincter ani: this gave free vent to the pus, and on the following day I found him much relieved.

Dec. 14th.—I again made an attempt to pass a catheter No. 4 into the bladder, and succeeded in doing so without using any force; but my patient suffered excessive pain, and he could not bear it to be retained there. I have now no doubt that it did not pass into the bladder by the natural channel, but by the false passage made previous to his admission.

16th.—Has been in great pain since the catheter was passed.

Jan. 3rd.—I found him this day very low and feverish; no appetite; suffering severely from constitutional irritation.

I made, as you saw, a careful examination of the perineal region; we found the matter burrowing in the scrotum, and pointing on the opposite side to the spot where it had been opened. I passed a catheter down through the bulb and triangular ligament into the membranous portion; I could then feel the instrument jerk forwards into a false passage: I felt it with the fore finger of the other hand through the rectum, but the point of the instrument did not enter the rectum, nor indeed did it feel nearer the gut than in the normal state of these parts. I could not pass the instrument by the natural channel into the bladder, at least I judged so by the great pain he suffered, and I know him to be one of those patients who do not cry out before they are hurt. I then took a small wax bougie, and curving it to the shape of the urethra, passed it fortunately along the natural channel into the bladder. The proof of this is the entire absence of pain after its introduction.

In this unfortunate case, for unfortunate it truly is, for the poor fellow, you must remember that there are two distinct abscesses and their consequent fistulæ; the one commencing within the pelvis, posterior to the triangular ligament, and burrowing by the side of the anus, has pointed over the ischium.

From the history you have heard, you cannot doubt that it was the result of a false passage made by the forcible introduction of a large catheter into a previously diseased urethra. This fistula, in consequence of its running by the side of the rectum and sphincter ani, requires the same treatment as a true fistula in ano, and for that reason I divided the sphincter. But this forms but a small and comparatively unimportant part of the treatment. The great difficulty we have to contend with is the false passage and stricture of the urethra; the second, abscess of the scrotum, through which the urine also passes, and its consequent irritation. The man's life has been in great danger from constitutional irritation, and its accompanying fever; but having succeeded in passing a wax bougie along the natural channel into the bladder, I hope we shall succeed in ultimately restoring him to health without operative interference. The alternative is a very serious one, for nothing short of laying open the urethra and dividing the stricture from end to end would be of any service. It is astonishing what rest, quiet, protection from atmospheric changes, and total abstinence from all stimulating liquors, will do in these cases; so that I trust we shall see him recover.

The next case to which I have to direct your attention is also one of abscess in perineo, and stricture of the urethra. As a general rule, the relation between these two diseases is very close; the stricture of the urethra arresting the flow of urine, causes irritation and ulceration of the mucous membrane posterior to the stricture. This ulceration may be only, as I have already said, the size of a pinhole, and only a drop of urine escapes; but this little drop I suspect is often the cause of most severe suffering, and I suspect that this is the explanation of the severe pain that Stevens describes that he felt early in his complaint: when the urine escapes in very small quantity, it produces irritation and abscess, but if the stricture is very tight, and the obstruction complete, then the urethra gives way extensively, and extravasation into the perineal and scrotal section of the cellular tissue, gangrene, with all its baneful results, follow. Perineal abscesses generally communicate with the urethra; but this has not occurred in the following case.

Abscess in Perineo.

Dec. 13, 1848.—S. K., a married man, æt. 37, mariner, leads a free life, but is not a hard drinker, was admitted into Henry's ward, under the care of Mr. Solly, with an abscess in the perineum.

Previous history.—He states that before the age of 26, he had gonorrhœa several times: these attacks were mostly treated with injections; that soon after this he observed that his urine came in rather a smaller stream, and that at times when passing water he had a cutting pain along the urethra, more particularly after drinking a little more than usual. He knew these symptoms to denote stricture, and applied to one of the navy surgeons, more in fear of the disease getting worse, than because of the inconvenience it gave him at the time. He occasionally had an instrument passed, and soon was able to pass for himself a No. 9 gum elastic catheter, which he did about once in a month. Thus has the stricture continued to give him but very little inconvenience for the last nine years.

On Tuesday, Dec. 5, he had a fit of determination of blood to the head, to which he had been rather subject since having been to the coast of Africa, two years ago, where he had a fever, which rendered him weak and low ever since. He was not bled for this attack, but had six leeches applied to the head. The morning after this fit he had great nausea, with retching, and then shivering fits. He soon became aware of a pain in the perineum, running along to between the testes: this became gradually worse; he lost his appetite, and could not sleep, and had much difficulty in passing water. Leeches were applied to the perineum, poppy fomentations were used; but in vain, he became worse, until he came to the hospital, December 13.

Present appearances.—He is a robust and healthy-looking man, though evidently now worn and ill. The perineum is full, and projecting downwards; the skin is not at all discoloured; sense of fluctuation positive, but deep-seated.

Mr. Solly endeavoured to pass a large catheter, but found that it would not go beyond the bulbous portion; he then made an incision with a double-edged scalpel, about one-seventh of an inch in depth, in the raphé of the perineum, letting out at least about two ounces of a very fœtid pus. A catheter was then passed easily into the bladder, and the patient was directed to keep it there as long as he could bear it comfortably. The urine was acid; his tongue was white; pulse 90, and weak. Ordered Liq. Potass. ♏x.; Inf. Buchu, ℥j. ter die.

Mr. Marsack subsequently ordered him Liq. Opii Sedativ. ʒss.

14th.—He has slept about half an hour in the night, and has much less pain than he had previous to the incision; but complains of great smarting on passing his water, but none comes through the wound.

15th.—He slept fairly last night; his appetite is better, and general appearance much improved; tongue less white; pulse 84 and stronger. The wound begins to granulate. still complains of great pain when making water, but none comes through the wound.

He has gone on well since the last date, and left the hospital quite well on the 23rd of December.

The way in which I explain this case is thus:—The debilitated state of constitution, and depression of the nervous system caused by anxiety, was the predisposing cause of the suppuration; the irritation of the stricture determined it to the urethra. I have frequently remarked a connection between mental anxiety and suppuration, which I cannot pretend to explain, but that there is some pathological connection I feel certain. I have known them come together too frequently to be the result of accident. I have seen it repeatedly in the persons of mercantile men, and especially within the last few years.

The next case is one of perineal abscess, communicating with the urethra, but without any stricture. The exciting cause in this instance is gonorrhœa. This is not common. I have scarcely ever seen it before. I will read the history of the case, and also remind you how easily I have just passed a full-sized catheter, shewing that there is no stricture.

George Bottomly, aged 44, paper-maker, married: gonorrhœa four months ago: abscess formed behind the scrotum. About one month after the commencement broke of itself. Not aware that any urine came through it until a fortnight previous to admission. Never had any stricture or difficulty in making water.

6th.—Passed a catheter without difficulty. The treatment since he came in has consisted in keeping a catheter constantly in the bladder, and in daily touching the edges of the fistula with nitrate of silver. Under this system the wound has gradually become smaller; still, however, a little urine passes through it.

13th. The wound has quite healed, and he is nearly well: the catheter has been retained in the bladder up to the present time, having of course been removed from time to time, and a clean one introduced.

Original Communications.

ON THE

BLOOD-CORPUSCLES OF THE HUMAN EMBRYO.

By James Paget.

The examination of an embryo between three and four lines long, and about four weeks old, given to me by my friend Dr. Brownless, afforded an opportunity of examining the human blood at an earlier period of life than in any instance yet, within my knowledge, recorded.

The blood was observed as it flowed from the omphalo-mesenteric vessels, and afterwards while its corpuscles lay singly or in clusters. The great majority of the red corpuscles presented a circular outline, and, as they rolled over, appeared spheroidal and vesicular, or like cells filled, but not tensely, with a clear red, jelly-like substance. Their surfaces were quite smooth; and as they dried, instead of merely shrivelling and becoming granulated, portions of their edges were incurved and folded towards their centres, a change of form common in all the nucleated mammalian red blood-corpuscles. They were full-coloured; even, apparently, more deeply red than the blood-corpuscles of an adult.

The nuclei of these spheroidal blood-corpuscles were circular, with dark, well-defined outlines, and darkly nebulous, as if somewhat granulated; they appeared to be attached to the inner surface of the cell-wall, and according to the position in which the cell rested, were seen either in the centre, or near to some part of the circumference. All the blood-corpuscules of the embryo were thus nucleated. I found, indeed, five or six red blood-corpuscles without nuclei, but these were not mingled with the nucleated ones, and in size and every other character so exactly resembled those of the adult that I have no doubt they were derived from the maternal blood, with a portion of which the embryo may have accidentally come in contact in taking it from the ovum.

Besides these spheroidal blood-corpuscles with single nuclei, there were not a few which contained two nuclei. Of these, some were spheroidal, but more were of ovoid shape, and larger than the rest. Their nuclei lay, in some, in close contact, as if one nucleus were dividing into two; in some they were just apart; in some far asunder, occupying the opposite ends of the oval cell.

The spheroidal corpuscles measured from 1-2100 to 1-2800 of an inch in diameter: their nuclei from 1-3700 to 1-4500.* Among the oval bi-nucleated corpuscles I found these measurements; 1-1500 by 1-2300 of an inch; 1-1600 by 1-3000; 1-1700 by 1-1800; and the nuclei of these (whose various apparent forms may be ascribed to their being seen in different positions) measured from 1-3700 to 1-4500 of an inch.

In the crowd of cells that formed the tissues and rudimental organs of the embryo, and of which many were loosely scattered over the field of view, it was not easy to discover any colourless blood-corpuscles; but I saw some resembling the nucleated red-corpuscles in every thing but colour: so that there can be little doubt that the development of the human blood corresponds with that of the other mammalia in this, as in other respects—namely, that a colourless state precedes the coloured state of the nucleated red-corpuscles.

The foregoing description of the corpuscles of the human embryo, confirms that which is inserted in Dr. Kirkes' Handbook of Physiology (p. 66), and which was drawn from the blood of a fœtus about five months old, for which I have also to thank Dr. Brownless. In that fœtus, in connection, perhaps, with malformation of the liver and other abdominal organs, the development of the blood appeared to be partially arrested, and many corpuscles existed presenting still the nucleated form which, in ordinary cases, disappears, I believe, after the third month of intra uterine life. In the blood of that fœtus, also, as in that of three months old described by Kölliker* and Fahrner†—the two sets of blood-corpuscles were mixed; *i. e.* the blood contained both nucleated corpuscles characteristic of the earliest period of life, and corpuscles without nuclei, such as, being formed from lymph-corpuscles, gradually supersede the nucleated set, and are maintained by repeated production through all the rest of life. But the examination of this much younger embryo shows that in the earliest periods of the human embryo, as in that of other mammalia, all the blood-corpuscles are nucleated.

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* The distinctness of the nuclei in the blood-corpuscles of the mammalian embryo, in which they may be seen even more plainly than in the blood of reptiles, may be referred to as adding to the improbability of the supposition that nuclei may exist in adult mammalian blood-corpuscles without being discernible.

Further examinations are required to determine at what period the nucleated corpuscles begin to be superseded by the non-nucleated ones which form the second set. For this, embryos should be examined in which the branchial fissures are just closed; for the analogy of the embryos of several species makes it probable that, at this time, the lymph would begin to be formed.

Saint Bartholomew's College,
January 18, 1849.

PRACTICAL OBSERVATIONS
ON THE
TREATMENT OF THE INSANE.

ON THE BAD EFFECTS OF GENERAL BLOOD-LETTING AND OTHER DEPLETIVE MEASURES IN THE ORDINARY TREATMENT OF INSANITY.

By William Smith, M.R.C.S.E.
Formerly House-Surgeon of the Lincoln Lunatic Asylum, and subsequently of the General Hospital, at Lincoln.

The prejudicial effects of general blood-letting, and excessive depletion of any kind, coupled with scanty food, and the habitual and long-continued use of mechanical restraint on the physical condition of insane persons, are well known to the experienced superintendents of our public lunatic hospitals; but I fear there are still many surgeons in general practice, and others having charge of our insane poor, who are not sufficiently conversant with the truth of these facts.

My own experience of the management of lunatics, acquired during my house-surgeoncy at Lincoln, and elsewhere in private practice (during a period of more than eight years), has impressed me with a firm conviction that *insanity (as usually met with in public or private institutions for lunatics) is essentially an asthenic disease, a disease of debility, and, therefore, that depletion, whether by blood-letting or other powerful evacuants, is invariably prejudicial, and calculated either to destroy life or render the disease intractable to ordinary remedies.* Since the year 1840, I have turned my attention more especially to the treatment of mental disorders, and seen many hundred cases of insanity, both in public and private practice: during the whole of that period *I have never once advocated the employment of blood-letting, local or general;* and I could quote numerous cases proving the decidedly prejudicial effects of depletion. In the Lancet, for 1846, vol. ii., pages 151-2, I have expressed my sentiments very fully on this subject; and a more mature experience, and extended inquiry into the practice of our public lunatic hospitals, have only confirmed my belief of the truth of those observations.

Dr. W. F. A. Browne, the able and experienced physician of the Crichton Asylum, Dumfries, has published some excellent remarks on this subject. In the Medico-Chirurgical Review, vol. lxviii., page 368, he observes—"The early acute stage of mania is generally treated by those who have no great practical acquaintance with the disease, and who likewise labour under the disadvantges of the patient being at home, without the *material* of a madhouse to assist them; while those who are acquainted with the disorder receive the patient only when it is confirmed. In nine cases out of ten, when a professional man, even of eminence, is called to a case of recent mania, he orders general depletion, the liberal exhibition of the solution of tartar emetic, brisk cathartics, and cold applications to a shaven scalp. If the symptoms, and especially the violence and rapid pulse, continue, or return in unabated force, the patient is perhaps bled again from the arm, or if not, he will be cupped or leeched to a certainty, and after these energetic measures are manfully urged for days or weeks, and the tartar emetic lustration fails in every respect, except in producing a nausea quiet, an asylum is recommended as the last resource. By such a step the patient is removed from the observation of the practitioner, who can neither prosecute the principles upon which he founded his treatment, nor accurately watch the consequences of what he has already done; and thus he may naturally conclude, and often does conclude, that the subsequent treatment is but a necessary continuation or completion of what he commenced; and that, in fact, he has scientifically and successfully paved the way for regulating the more advanced stages of the malady. This is a gross and grievous mistake: when a patient enters an asylum, the plan adopted agrees neither in principle nor application with that previously pursued." Be it remembered that these remarks were published in 1841, since which time (thanks to the valuable lectures of Dr. J. Conolly, the elaborate annual reports of our Public Lunatic Hospitals, and the comprehensive reports of the Commissioners in Lunacy, for 1844 and 1847) the subject of insanity has been better understood, and more scientifically investigated. I am still, however, decidedly of opinion, that cases of mental derangement are even now frequently subjected to such erroneous and dangerous modes of treatment; and I am well convinced that many of the superintendents of our county Lunatic Asylums could bear me out in the truth of this assertion. In two cases of insanity which I have recently treated in this neighbourhood, I found the doctrine of blood-letting as a means of cure to be a popular idea. In one case, a male patient, a surgeon residing in Belper, who had treated the patient for a prior attack, took away more than a pound of blood (I need not say without benefit); and in the other, that of a stout female, the friends and neighbours urgently pressed me to abstract blood, and on the occasion of my first visit, had actually prepared the *basin and tape*, taking it for granted that I should of course employ blood-letting. It appears to me that it would be quite as rational to employ general blood-letting for a paroxysm of hysteria in a female, as in ordinary cases of insanity; and I quite agree with Dr. A. Sutherland, who considers *insanity to depend upon irritation, and not on inflammation:* nay, I will go still further, and assert my belief, that *even local depletion is very rarely indeed required*, and *has often proved to be decidedly prejudicial to the insane*. Dr. Wm. Hutcheson, the experienced physician of the Glasgow Royal Lunatic Asylum at Gartnavel, in reply to an inquiry of mine relative to his experience of blood-letting, observes:—"I have never advocated blood-letting in insanity, and for many years have not directed it to be had recourse to even locally. When a case is reported to have been 'bled, blistered, and purged, as well as sickened,' I know well that it will prove either tedious or incurable. If you will look to the 28th annual report of this asylum, you will find, at pages 41 and 42, my opinion on the subject of blood-letting, very decidedly given: to that I adhere, all my experience convincing me of its being correct. I have had nearly two thousand cases since that opinion was printed and published." In the report to which my friend Dr. Hutcheson alludes, I find the following:—"In mere insanity, general blood-letting is never necessary; and, in nine cases out of ten, highly prejudicial. During the last year I have not directed the employment of the lancet once. Local blood-letting is sometimes useful, but must be very cautiously employed. I have seen no good result from it in cases of recurrent mania, in which it has been strongly recommended by some physicians. In the cases in which it is beneficial it can be employed with safety only at the commencement: even in diseases requiring blood-letting, which may occur during insanity, it must be cautiously employed, as the insane do not bear the loss of blood to a great amount well under any circumstances. I have seen more mischief arise from indiscriminate blood-letting in insanity, than from all the abuses of other therapeutic means put together." To the kindness of F. D. Walsh, Esq., the resident surgeon of the Lincoln Lunatic Asylum, I am indebted for the following cases and remarks:—"The lancet has never been used since I have been house-surgeon to the Lincoln Asylum, in any case. I had a prejudice against the use of it before I came here, and there is no medical officer of the establishment who advocates its use in any case of insanity. I have admitted only two cases in which the lancet had been used before admission: in one it appears to have been the cause of insanity.—Admitted August 19, 1846, R.P., a labourer, aged 56; is said to have had an attack of an acute disease of the chest six years ago. He was bled several times; the quantity of blood not mentioned, but it appears to have been very great. He became much reduced, and afterwards maniacal: he remained in a state of mania for some time, but the excitement leaving him he became low spirited and melancholy, yet for some time able to follow his usual employment of a labourer; but he has been gradually getting worse for these last six years: he is at present a complete case of melancholia, refusing to speak, indifferent to all surrounding objects and circumstances; if left to himself would stand until he perished from wet or cold, and would neither take food or drink. He is a tall, and once an athletic man; is now emaciated and weak, with lank cadaverous appearance of countenance. There was an hereditary predisposition to insanity in this case, and no other probable cause but the blood-letting.

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* Ueber die Blutkörperchen eines menschlichen Embryo . . in Henle und Pfeiffer's Zeitschrift. 1846.

† De Globulorum sanguinis. . . . origine. Turici, 1845.

"G. E., a pauper patient from the Goole Union, Yorkshire, aged 52 years, has been subject to epilepsy from childhood, but the fits were so slight that they were not observed in the Goole Union, and not mentioned in his admission-paper: has been subject to mania on a previous occasion, but recovered. He was taken into the Goole Union in a state of violent mania; was bled on four occasions; the quantity of blood taken not mentioned, but, as far as I can learn, about thirty ounces each time. He took also tartrate of antimony. Since he has been here he has shown no symptoms of mania, but is an incurable imbecile. His fits have increased in number and violence. The surgeon of the Goole Union made a remark favourable to blood-letting. This case I consider was most miserably treated.

"I have had no experience since I have been here in any other cases of general blood-letting, but of local I have one entry in my journal.

"Feb. 13.—Had two leeches applied behind the ear; no benefit derived from them; her mind remains in the same state.

"14th.—Leeches repeated. She became more violent than usual after their application. Broke a window in the Infirmary; and, when the door was opened, rushed across the gallery and broke another window. Strikes the nurses, who inform me that she has never been so violent before. This patient became less excited when animal food was given liberally, which I have often observed in other cases: as we may observe in ourselves, if we are out of temper in the morning, we are often soothed by a good dinner."

In the "*Further Report of the Commissioners in Lunacy to the Lord Chancellor*, 1847," there are some admirable remarks on "*Bloodletting as a remedy for Mania.*" The observations on this point, and others of vital importance in the remedial treatment of insanity, are so apposite, that I consider that "*Report*" should form a part of the library of every practitioner who professes (or may be called) to treat cases of mental derangement. Dr. Alexander Sutherland, the intelligent physician of St. Luke's, (whose position must have enabled him to see a vast amount of insane practice both in public and private) has there recorded his views as follows:—"Dr. Sutherland never employs general bleedings, because, after the acute stage has passed, great prostration of strength follows, and the state of the body, exhausted by frequent paroxysms, is much the worse for the loss of blood. He has known death from exhaustion and dementia occasioned by bleeding. He considers the violent paroxysms of the acute stage as depending not on inflamtion, but irritation. He thinks the arterial congestion which is found in such cases, P.M., the result, not of inflammation, but of irritation,—an effort to repair the mischief sustained in some cases, and in others the effect of an anæmia, which venesection would aggravate." According to the same '*Report*,' Dr. Wintle, of the Warneford Hospital, Oxford, states: "I hold insanity in all its forms, as we meet with it in hospitals, to be a disease of debility, and seldom admitting of depletion. The principal indications are, I believe, in mania, to subdue the excitement, procure sleep, and husband the strength; in melancholia, to produce a certain degree of excitement, induce sleep, and support the system. General bleeding can hardly ever be admissible, except for some accidental disease, and then it should be sparingly used. Topical bleeding might occasionally be beneficial, but I have not for many years used either."

Mr. Poynder, of the Kent Asylum, thus expresses himself:—"Treatment of acute mania. Here the young practitioner might be led to suppose, from the violent excitement which prevails, that the vascular system needs relieving by the free use of the lancet; but bleeding will not cure mania. It will generally aggravate instead of alleviating the symptoms, for the loss of blood induces restlessness, and exhausts that strength which ought to be supported. The state of the pulse may be taken as a good criterion here, for it rarely if ever has the hard and incompressible beat which accompanies inflammation." Mr. Wilkes, the resident surgeon of the Staffordshire General Lunatic Asylum, remarks: "To the observations on general bleeding I may add, that not only is there a want of proof of relief having been obtained by this popular remedy, in any of the cases brought to this asylum in which it has been practised, but its injurious effects have been so repeatedly and decidedly witnessed, either in producing fatal exhaustion, or reducing the patient to a hopeless state of imbecility, that in cases of simple mania, uncombined with inflammation, its adoption cannot be too strongly deprecated."

I cannot conclude this paper without expressing my entire concurrence and approval of the following judicious observations from the pen of my esteemed friend Dr. Conolly, the enlightened physician of the Hanwell County Asylum, contained in the before-named Report of the Lunacy Commissioners.

"General Remarks.—It will be observed that I consider the direct treatment of any form of insanity, by mere medicinal applications, to be very limited; but the indirect treatment of mental maladies, by innumerable means acting on the body and mind, of immeasurable importance. These means can, I believe, seldom be efficiently applied, except in well-constructed and well-conducted asylums, superintended by well-educated men, aided by benevolent and active attendants. By such means I believe many insane persons to be capable of cure; and all, however incurable and hopeless, capable of improvement and relief. I will merely add, that I am convinced that general bloodletting is rarely admissible, and generally, dangerous in insanity."

Belper, South Derbyshire,
December 13th, 1848.

CASE OF

ABSCESS OF THE SPERMATIC CORD,

COMPLICATED WITH HERNIA AND PERITONEAL INFLAMMATION.

By Wm. Philpot Brookes, M.D., &c.

Fellow of the Royal Medico-Chirurgical Society, London; Surgeon to the Cheltenham General Hospital and Dispensary; and Visiting Medical Officer to the Cheltenham County Division of Lunatic Asylums, &c.

R. W., aged 51, of an active spare habit of body, irritable and very anxious disposition, living as butler in the family of a gentleman in Cheltenham, enjoyed uninterrupted good health to within the last few months. Six months back he after much pain and suffering passed a large-sized gravel stone: since that time his usual good health returned.

On Wednesday, June 28th, 1848, I was requested by his master, who had formerly practised as a medical man, but had retired for the last few years from the active duties of the profession, to attend him. I found the patient suffering from feverishness, constipation, pain in the abdominal region on pressure, and extensive pain around the margin of the ribs on the right side. On examination of the groin I learnt he had suffered for several years from a double inguinal hernia, and for it had constantly worn a truss of Salmon and Ody's construction. There was on the right side, above Poupart's ligament, a round cup-shaped depression, as large and deep as a small saucer, caused by the pad of the truss slipping out of its proper situation, and extensive pressure having been kept up with the pad, which was hard and convex. On this spot he complained of excruciating pain, and could barely allow it to be touched: the heat of it was far above the natural temperature, and the skin was of a reddish brown hue.

The pulse was very quick and sharp; bowels had not acted for two days; tongue foul; hernia easily reduced; ordered him five grains of Calomel, to be taken directly; black draught in the morning, and a dozen leeches, with fomentations and poultices, to be applied to the abdomen; afterwards an enema to be given at bed-time if he had had no evacuation before that period.

29th.—Bowels not opened; enema passed away without any fæcal matter; great pain over the whole abdomen, and around the edges of the liver; tongue white and foul; pulse quick and wiry; urine scanty and high coloured. Take two grains of calomel and half a grain of opium every four hours; an enema to be given directly; twelve leeches to be again applied to the bowels, and afterwards warm poultices kept constantly on.

30th.—Pain in the abdominal region increased since last night; bowels opened twice; countenance anxious; pulse sharp, wiry, quick, and small; tongue foul. Repeat the calomel and opium; to be bled until the system feels the effect of it, and the pain becomes less.

July 1st.—Pain in the abdomen and around the liver much decreased after the bleeding; tongue dry and red in the morning, but at night it became quite moist. Repeat calomel and opium.

2nd.—Pain entirely ceased over the bowels and liver, but at the spot where the truss was worn it is still very acute and painful, and he will not allow any pressure to be used; it is also swollen and hot: intense hiccough appeared this morning, which gives him uneasiness, and makes him irritable and anxious; countenance shows great anxiety; he takes but little sustenance; more fulness on the spot where he complained of pain, and a swelling of a pyriform shape, extending under Poupart's ligament from this part down into the scrotum, appeared to-day; it follows the course of the spermatic vessels from the ring; the cord is situated behind the swelling, and feels hard, tense, and most painful to the touch; the hernia is not to be discovered; the tongue dry, glazed and red, but at night it moistens, and has done so for the last few evenings. Pulse 120, quick and sharp.

3rd.—Hiccough continues much the same, and he rarely gets an interval of five minutes without it; he has also every two or three hours severe fainting paroxysms, in which he can scarcely draw breath, and is compelled to be supported up in bed: when in these attacks he appears as if in a dying state, and they last for two or three minutes at a time: the stethoscope can discover no abnormal signs of disease in any of the viscera or vessels of the chest; the tumor in the groin is hard, red, and painful to the touch; does not fluctuate, nor does pressure exert any influence on it; no intestine can be discovered down; twelve leeches to be applied to it; warm fomentations afterwards. Bowels open twice to-day; is in a most exhausted state; to take beef-tea, brandy and water, and the following mixture:—Two drachms of spirits of compound sulphuric ather, water six ounces, one tablespoonful every two hours.

4th.—Tongue cleaner, but red and shining; pulse small and wiry, 110. Hiccough continues much the same; paroxysms of difficulty of breathing and fainting less frequent; pain and fulness in the region of the groin increases, but it is softer and more boggy than it was yesterday. Spirit lotion to be kept applied to the parts, and take one grain of quinine, with compound spirits of sulphuric ether every four hours. Bowels are regular, and urine plentiful.

5th.—Diarrhœa set in to-day; tongue dry and shining in the morning part, but moist at night. Sleeps but little. Hiccough continues the same; paroxysms of difficulty of breathing less frequent, and not so intense. Omit the mixture of Quinine, and take ten grains of Dover's powder at bed-time, and chalk mixture, with aromatic confection, every four hours, until the purging ceases.

7th.—Diarrhœa ceased last night; pulse sharp, wiry, weak, and 90. Swelling in the groin and scrotum increases; most painful when touched. Spermatic cord situated behind is increased in size, hard, and painful. Hiccough less, but still troublesome. Countenance less anxious.

8th.—Hiccough decreasing in frequency; pulse weak, but less sharp and wiry, 80. His strength increases. Paroxysms of fainting entirely left him since the 5th. Takes nourishment better; to have plenty of animal food, brandy and water frequently.

Towards the evening I was sent for in great haste, when I found my patient in a dreadful state of collapse, with difficulty of drawing breath: cold perspiration streaming from his forehead and face, and we considered him in a dying state; he could just swallow. By the use of ether, brandy, and ammonia, he gradually rallied. Warm poultices to be kept applied to the swelling in the groin.

10th.—Tumor very painful: will not allow it to be handled much; it extends nearly to the lowest part of the scrotum, and takes quite the shape of scrotal hernia. I can discover no intestine down. Bowels well opened; great sickness came on to-day, and slight fluctuation appeared in the tumor, which is becoming red and inflamed. On moderate pressure it gives a gurgling noise, as if it contained air. Tongue red and moist. Continue Quinine and Ether. On a consultation with Mr. Eves and my patient's master, it was deemed prudent not to interfere with the tumor to-day, and warm applications were applied.

16th.—Tumor continued increasing in size up to this day: it appears to have no inclination to point on pressure; it gives an increased gurgling-like noise of air, and on filliping it produces a drum-like sound. We can discover no intestine in the scrotum. To-day we thought it advisable to dissect down layer after layer, as if operating for hernia, and after dividing the first two layers a most fœtid offensive matter escaped to the extent of nearly half a pint, raised with bubbles of air. The constitution suffers greatly, and he has become very weak, irritable, and anxious. To take beef-tea, brandy, and as generous food as he can, with occasionally porter and port wine. Instead of brandy, continue the quinine mixture.

18th.—Tongue moist; pulse fuller and more natural; bowels opened; urine healthy and plentiful; sleeps well. A slough coming away from the wound in the scrotum, which discharges about six ounces daily, and smells most offensive.

18th, 10 P.M.—First stage of sphacelus set in this evening on the side of the scrotum, and around the upper portion of the tumor as high as Poupart's ligament. He cannot now feel the parts when touched. Countenance anxious; pulse weaker than this morning. Says he applied a cold poultice to the parts this afternoon. Apply warmth, with flannels to it, for a few hours, and afterwards barm and charcoal poultices. Tongue moist and red; falls frequently into a cold stage of collapse; take egg and brandy mixture frequently.

19th.—Pulse fuller and stronger: rallied much since last night. Healthier discharge from the scrotum, and it is becoming more its natural colour and warmth. Can now feel it when touched. Tongue moist: takes plenty of food and brandy. Pulse stronger, and more substance in it. Bowels open and regular. Continue poultices and quinine mixture.

20th.—Takes food well: a large-sized piece of slough was cut away from the scrotum to-day. A copious discharge from the parts: the pyriform swelling in the groin still remains. Continue as before.

21st.—Going on well; gains strength daily; discharge much the same, but not not so offensive as it was. Air occasionally escapes with it when it is dressed. Pulse good; tongue clean; bowels regular.

August 5th.—He continues improving; the discharge nearly ceased; wound in the scrotum very trifling, and he can now walk a little.

Sept. 1st.—Now quite well: the hernia comes down on the left side, but not on the right to so great an extent as it did before the attack. Still pain on pressure on the spot where the pad of the truss was worn. He wears a common circular truss with a long oval concave soft pad; this at first gave him some uneasiness if it moved up a little, but he now raises it with comparative comfort and ease.

On reviewing the history of this uncommon, and in many respects novel case, which I confess terminated more favourably than I ever could have anticipated, I cannot but attribute the first injury to the considerable inflammatory action which was set up in the region of the abdominal ring, from the hard convex pad of the truss having slipped out of its position, and exerting undue pressure on the sheath of the spermatic cord:

this inflammation was also gradually extended to the peritoneum, and caused at the onset of the attack the severe peritoneal symptoms I had to contend with. The hiccough through the early part of the case was a very troublesome symptom, and doubtless was first caused when the matter commenced forming, as it altogether ceased on the complete formation of the pus: another obscure point in the treatment was the peculiar gurgling sensation and drum-like sound given out by the tumor when it was examined, and which gave us the idea that it was in some measure, either dependent on intestine, or that the tumor communicated with the cavity of the abdomen, and therefore it rendered us anxious not to use surgical interference until more distinct marks of its character appeared. On opening the swelling the gurgling noise was fully accounted for by the escape of air with the pus, and I doubt not this air was generated by decomposition of the cellular tissue surrounding the parts and communicating with the sac of the abscess. Another symptom (no stethoscopic examination could discern disease of any of the organs of the chest) was the peculiar paroxysms of syncope; it is quite impossible for any one but an eye witness to imagine the extraordinary nature of the severity of these attacks, and frequently we considered the patient in a dying state from them. I have some difficulty in attributing them to any cause, for I never before saw anything at all approaching the symptoms: I imagine they arose from the extreme irritation and exhaustion the system was undergoing while purulent matter was forming, for on the complete formation of the pus they gave way considerably, and shortly after the exit of it, entirely disappeared. The powers of the constitution in this man were obviously shown, and the benefit to be gained by freely pushing stimulants with care, was extremely well marked, for he frequently rallied wonderfully when all hopes of life had nearly ceased.

The stage of sphacelus which for a few hours appeared, I must attribute to the application of a cold poultice to the parts by mistake, and the extreme want of constitutional power in the system rendered cold a dangerous remedy in this state. Upon the application of warmth it speedily gave way, and the scrotum again took on an healthy action. The hernia on the side of the injury descends far less than on the left, and for the first few weeks it could be barely said to come down at all; in fact its descent now only takes place on violent straining or exertion: this I consider was from the abdominal ring being obliterated in a great degree by the inflammatory action taking place upon and around it. I have found much difficulty (since recovery) in adapting a truss to the right side, from the pain it gave him when he first commenced wearing it, but having now had it constructed with a soft slightly concave pad in the centre, and elongated nearly half an inch more than usual, he manages to wear it without uneasiness. There is at present some pain on pressure over the abdominal ring, and the cup-like depression from the former pad of the truss still exists. The right testicle and spermatic cord are quite healthy and of their natural size.

The similarity of this disease in many respects to hernia is very strong, and may easily have (at the onset) been mistaken by a careless observer for a case of strangulated scrotal hernia.

1st. It gradually descended from the abdomen in the course of the cord, which was also situated behind it.

2ndly. It protruded much while the patient was in the erect posture.

3dly. It gave some impulse on coughing.

4thly. The gurgling noise and drum-like sound of the tumor appeared as if it contained flatus.

5thly. The costiveness and sickness which frequently appeared, had not the intestine readily returned, would, I doubt not, have led to the belief that the whole of the symptoms arose from hernia.

Albion House, Cheltenham,
Dec. 1848.

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 25th January, 1849:—John Wilson—William Murthwaite Thompson, Lambeth Walk.

EXAMINATION OF THE LIQUID VOMITED DURING AN ATTACK OF CHOLERA.

By Alfred S. Taylor, F.R.S.
Lecturer on Chemistry, &c., in Guy's Hospital.

The specimen which was submitted to examination was delivered to me by Mr. Kite, medical superintendent of the Tooting Asylum for pauper children, with the following account of the case:—

"The fluid was the matter vomited by a child, nine years of age, who was suddenly taken ill while in school, at 11 A.M. on the 3rd January. The first symptom was diarrhœa, followed by vomiting of the undigested food, the child having had breakfast between seven and eight o'clock, *i. e.* more than three hours before the first attack of vomiting; she had not complained of diarrhœa previously. The breakfast consisted of a mixture of gruel and arrow-root, with bread. After the first vomiting the extremities became cold, and the pulse weak and feeble. The vomiting and diarrhœa continued, the former the more constant, and collapse became complete. She complained of pain at the epigastrium, but there were no cramps; the tongue was furred, and the matter vomited assumed the appearance of rice-water; the dejections were likened by the nurses to soapy water.

"The fluid brought to you was thrown up very soon after the first vomiting, when the undigested food was rejected; it was in fact the production of the second vomiting, and immediately poured from the vessel into the bottle. The usual remedies were adopted—calomel, ammonia, opium, stimulants, and warmth externally, but without effect.

"The case proved fatal at 1 P.M. on the 5th January, fifty hours from the appearance of the first symptoms."

The *liquid* was turbid, and when shaken appeared like dirty water. When left at repose, a sediment of a curdy-looking insoluble white substance subsided. There were no distinct traces of food, with the exception of a few husks resembling those of barley undigested. Iodine water gave no blue colour either with the sediment or the clear liquid. There was no indication of the presence of blood. The white deposit had the appearance of pus, and had none of the ropiness of mucus. The supernatant liquid had the colour of very pale or diluted serum. Its specific gravity was found to be 1·012. One hundred grains submitted to evaporation at a gentle heat on a sand bath, yielded 3·3 grains of solid extract, resembling a layer of brown varnish. This residue yielded by incineration 0·8 gr. of saline matter, almost entirely soluble in water. The only alkali detected in the aqueous solution of the ash, was soda. This solution had a slightly alkaline reaction (alkaline carbonate), and was abundantly precipitated by nitrate of silver, the precipitate being insoluble in nitric acid. A salt of baryta gave a very slight precipitate (sulphate of baryta). There was no trace of a soluble phosphate, nor could any insoluble phosphate (of lime) be detected in the residue. The ash therefore consisted of chloride of sodium, sulphate of soda, and carbonate of soda, the first-mentioned salt forming not less than three-fourths of the whole.

The clear serous liquid was without any remarkable odour, and had a slightly acid reaction. It became very frothy by agitation. A portion was boiled, without any coagulum, or even turbidity, being produced. It remained equally unchanged on the addition of strong nitric acid, and no opacity was caused by ferrocyanide of potassium and acetic acid. Alcohol and pyrophosphoric acid produced in it no change. It was therefore obvious that the liquid contained no albumen. Acetic acid did not produce in it any change: casein and mucus, in a soluble or diffused form, were therefore absent. Muriatic acid was added to it, and it was allowed to stand for a few hours, but there was no change indicative of the presence of the colouring principle of bile; and nitric acid did not indicate the presence of this secretion. A slip of white paper plunged into it and dried did not present any yellow tint. When a small quantity was boiled with pure caustic potash holding dissolved, oxide of lead, it became perceptibly darker, indicating the presence of sulphur in the animal matter diffused through it. It was abundantly precipitated by nitrate of silver (owing to the chloride of sodium contained in it), slightly by the nitrate of baryta (sulphate), abundantly by the acetate of lead (from organic matter), the greater part being re-dissolved by a small quantity of nitric acid; and it was not affected by the addition of alum. Protonitrate of mercury produced in it a dense white precipitate, and there was no separation of oxide of mercury, such as is produced on adding this salt to albumen, serum, or gelatin. Corrosive sublimate rendered it slightly opake, but produced in it no precipitate. Tincture of galls threw down an abundant white precipitate which was not re-dissolved on boiling. When mixed with solution of caustic potash in the cold, and acetic acid was added to the mixture, no precipitate was produced. I have found that a precipitate has been uniformly produced on subjecting albuminous or serous liquids to this mode of testing. On adding sulphate of copper to the liquid, and subsequently caustic potash, the oxide was re-dissolved, forming a light blue solution; but after boiling, no deposit of red oxide of copper was procured.*

The constitution of this liquid was therefore—

Animal matter		2·5
Salts	Chloride of sodium in large proportion. Sulphate of soda	·8
	Water	96·7
		100·

The carbonate of soda was no doubt a product of the decomposition of the organic matter. The acidity of the liquid may have been due to the presence of some organic acid.

The *solid white deposit* was quite soluble in boiling caustic potash, and yielded, on the addition of oxide of lead, the usual evidence of the presence of sulphur. The potash-solution obtained by boiling the sediment in the caustic alkali, was rendered opake on the addition of acetic acid: but no excess of the acid caused it to become again clear. The alkaline solution was also precipitated by diluted nitric acid, and the precipitate was not redissolved by an excess of the acid.

The white sediment was soluble in boiling concentrated nitric acid, and the acid solution was precipitated by dilution with water. When drained of water and covered with strong acetic acid, it did not swell up—a property which is characteristic of fibrin, nor could it be obtained in a state of solution by the addition of distilled water, and exposing it to a boiling heat. When boiled with concentrated muriatic acid, it became dissolved, and formed a reddish purple solution, which gave a pinkish white deposit when diluted with water. In this property it resembled the action of muriatic acid on what Mulder has designated the compounds of protein. To another portion of the sediment, caustic potash was added, but it did not become gelatinous, or assume that appearance which is observed in pus when thus treated.

From the result of this analysis, it appears that albumen is not necessarily a constituent of the choleraic liquid, although there are many theories respecting treatment, based on the assumption that the blood forces out its serum through the intestinal mucous membrane. Not a trace of albumen existed in the specimen here examined; fibrin was also absent, as there was no spontaneously coagulable principle, and the sediment was insoluble in acetic acid. The animal substance dissolved in the clear liquid, differed from gelatin in the fact that it yielded sulphur, and had no tendency to gelatinize. The animal matter may have consisted of bile altered by disease, or of some morbid animal product poured out by the blood under the influence of the choleraic poison. The large quantity of chloride of sodium contained in it is consistent with the view generally entertained by pathologists, that, under an attack of cholera, this salt is abundantly excreted from the system,—not by the kidneys, (for the urine has been found deficient in chlorides) but by the gastro-intestinal mucous membrane.

The chemical nature of the evacuations of cholera-patients has been examined by various pathologists. In the *Comptes Rendus* for 1847, M. Andral gives an account of the fæcal evacuations.* The most important fact which he observed, was the entire absence from these liquids of the serum and fibrin of which it was supposed they chiefly consisted. He could not discover in them any trace of albumen; and M. Favre also found, as the result of his analysis, that the organic substance contained in the choleraic liquid, possessed none of the properties of albumen. The observations of these pathologists are strikingly confirmed by the results of the analysis in this case. M. Andral was then induced to examine the blood, and he found that the proportion of albumen was almost unaltered. There was neither manifest increase nor diminution. Dr. Buchanan states, that in a certain stage of the disease, which he denominates the albuminous, he has found the evacuations in cholera to contain albumen. It would thus appear that their composition is liable to vary. It will be observed that the liquid examined in the present case was the product of the second vomiting in an early period of the attack, and more than three hours after food had been taken.

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* The production of a blue solution under these circumstances is not an indication of the presence of sugar, unless the oxide of copper should be reduced by boiling.

* Medical Gazette, vol. xl., page 782.

In the paper published by M. Andral, he speaks of the fæcal evacuations in cholera having a highly alkaline reaction, like serum; but in this respect his opinion appears to have undergone some change. At a recent discussion in the Academy of Sciences,* he states that he has almost constantly found the vomited matters to be *acid*, as well as the mucous membrane itself. The liquids discharged by vomiting and purging have hitherto been regarded as similar, and the more recently expressed opinion of Andral is in conformity with the fact observed in the present instance. M. Burguieres† states that the vomited matters in cholera were evidently acid, but he commonly found them mixed with portions of food partially digested. This gentleman also states, that after the patients had vomited three or four times, the acidity disappeared, and they became alkaline. The alkaline reaction especially existed when the vomited matters assumed the white and flocculent appearance characteristic of the evacuations of cholera.

Dr. Heller found that the matters vomited during the progress of the disease were very watery, and of a greenish or yellowish green colour.‡ They also had a slightly acid or neutral reaction; and, from his examination, he considered bile to be the principal ingredient. This pathologist observed that the chlorides were almost entirely absent from the urine.

The nature of the white sedimentary matter appears to be very obscure. It did not in this instance present the physical and chemical characters of coagulated albumen, fibrin, mucus, or pus. It bore a strong resemblance to the last-mentioned morbid compound, with the exception that it behaved differently when treated with potash: besides, the deposit was mixed with a quantity of white curdy matter altogether unlike pus in its appearance and chemical properties. M. Andral, who has also carefully examined this peculiar deposit, states that it does not consist of fibrin: under the microscope he could not trace any filamentous structure. He found it to be composed of numerous nucleated and nucleolated cells, closely resembling pus-globules. Besides these globules, which were very abundant, the masses contained numerous particles of epithelium.

One fact appears clear from these researches, that the cholera-liquid is not to be regarded as a mere excretion of the watery parts of the blood mixed with fibrin. At the commencement of the attack, the vomited matters are acid, and mixed with a morbid product analogous to pus, but differing in properties from all the organic compounds hitherto found in the living healthy body.

EFFICACY OF PREVENTIVE MEASURES IN CHOLERA.

According to a report just furnished to the Board of Health by Dr. Sutherland, the plan of visiting houses has been attended with the most satisfactory results in suppressing cholera in Dumfries and Glasgow. On 10th of January, there were only four cases of cholera in Dumfries, while there were ninety-two cases of premonitory diarrhœa, many of which would have probably passed into cholera had they been left to themselves. This result is quite in accordance with medical experience over the whole of Europe. It is more easy to *prevent* than to *cure* an attack of cholera. Persons in ordinary life cannot be made to understand the danger of allowing a slight attack of diarrhœa to continue unchecked; hence house-visitation among the poor is absolutely necessary to prevent the spreading of the disease.

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* Medical Gazette, vol. xlii. p. 683.

† Ibid.

‡ Medical Gazette, vol. xxxviii. p. 305.

MEDICAL GAZETTE.

FRIDAY, FEBRUARY 2, 1849.

AMONG the subjects to which the Board of Health might at the present time direct their attention, are—1, The diffusion of cholera by articles of clothing; and 2, The introduction of proper means for disinfection in all establishments where the disease prevails. We are aware that the Board have declared that the cholera is not communicable under any circumstances whatever from man to man; and have staked their *non*-professional reputation upon this unequivocal declaration. Facts are, however, more potent than any official dogma, and we cannot help suspecting that the official declaration of the non-contagiousness of cholera, is rather based upon social expediency, than upon the conviction that it is absolutely true. The acts of the Board indicate an honest desire to prevent the spread of the disease, and this is quite enough to justify us in making an appeal to them. They recommended the immediate separation and distribution of the children in the Tooting Asylum—a plan well adapted to put an end to the diffusion of the disease through the Asylum by contagion, although it could have had no effect in arresting the spread of a true epidemic, divested of any contagious character. The medical staff of the Board may be inclined to follow the example of the celebrated Dr. Rush, who, it is well known, was a strenuous advocate of the endemic origin of Yellow fever in the United States. Like the medical representations of our Board of Health, in reference to cholera, he contended that Yellow fever was not communicable from man to man under any circumstances whatever. It appears, however, from an official report presented to the United States government, about three years since, that his opinion subsequently underwent considerable modification.* He candidly admitted that this disease "was even produced in Philadelphia from the effluvia from a chest of unwashed clothes which belonged to a person who had died of it at Barbadoes."

The absorption of noxious effluvia by clothes or soft and porous articles of merchandise, has been long recognized as a fact by men who have directed special attention to this subject. There is nothing very wonderful in this: we have an unequivocal instance of this power of absorption, in the fact that the clothes of an individual who has been engaged in examining a body in a highly putrescent state, will retain a perceptibly offensive odour for weeks, or even months, especially if kept packed in a box or closet. Other poisonous human effluvia, not perceptible to the smell, are, however, equally absorbed, and are liable to be transferred by clothing to other individuals who may be at the time in a state fitted to receive the disease. An accoucheur may thus spread the poison of puerperal fever among females recently delivered, while females not pregnant may escape. The odour possessed by the poisonous vapour or gas, is an accidental condition, and is by no means connected with its power to propagate disease among susceptible persons. The animal poison, which is capable of producing scarlet fever or measles, has not, so far as we know, any odour; and the same may be said of the poisons by which plague, yellow fever and cholera, are capable of being transmitted. Although a peculiar smell has been sometimes perceived in goods and clothes, supposed to be impregnated with these animal poisons, we have no proof that this is an essential property of any one of them.

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* Report of a Committee of the House of Assembly of the State of New York, on the present Quarantine Laws. Albany, 1846.

There are numerous facts which shew that the cholera poison may in certain cases be conveyed in articles of clothing; and Dr. Copland believes, from his own personal observation and knowledge, that there is more risk of the importation of cholera from the body and bed clothes, and foul linen of those who have been affected with it, than from the persons of the infected, or from any other source whatever. It is no objection to this view that many cases might be at once cited to prove that the disease had *not* been thus conveyed from one person to another, or from one country to another. Our readers will perceive that such an objection only affects the relative frequency, and not the fact of the disease being thus transmitted. One case in the affirmative is as good as a thousand; and we do not know that we can take a more striking instance as a proof of this mode of diffusion, than the following, which occurred under Dr. Copland's own observation* :—

Having passed some time with the patients at the Bermondsey Cholera Hospital (1831-2), and assisted at the inspection of two fatal cases, he went in an open carriage to see two relatives, residing in an airy situation at Pentonville, a distance of three or four miles. They complained immediately on his entering the apartment of the offensive odour proceeding from his clothes. He concealed from them the fact that he had just come from a cholera hospital. He was called to them the following day, and found them both in an early stage of the disease, from which they ultimately recovered with difficulty.*

It is only by a series of facts of this kind, that all accoucheurs have arrived at the conviction, that the puerperal poison may be thus conveyed. In either case the miasm is only liable to act upon the susceptible; and the necessity of caution is therefore strongly impressed upon us, by the fact that, in reference to cholera, we have no means of distinguishing the cases in which this susceptibility exists. The accoucheur, however, knows that the recently delivered female is especially prone to be affected by the poisonous effluvia which he carries about with him.

There cannot, we think, be any reason to doubt that cholera has often found its way into countries through the 'medium of articles of clothing; while contagonists and non-contagonists have occupied themselves in seeking for proofs of the existence or non-existence of direct personal intercourse with the affected. We are indebted to Dr. D. B. White, of Newcastle, for an illustration. This gentleman is not inclined to regard the cholera as contagious, but he nevertheless candidly suggests that the poison may have been in one instance imported by merchandize. One of the most aggravated cases which he witnessed in 1831, was that of a man who acted as engineman to an extensive rope-maker. This man had been exposed to the exhalations of large quantities of hemp brought from the infected Baltic ports; and this was the only apparent source to which the attack could be ascribed. The poison is, however, more frequently conveyed in the clothes and linen of those who have died of the disease than in merchandize; and the sudden appearance of cholera in seaport towns is, perhaps, more commonly due to this cause than to the arrival of an individual affected with the disease. Proof of importation cannot be so readily obtained in the former as in the latter case. Dr. Copland justly observes—"That every person who has seen much of the communications between distant places by means of trading vessels, who has travelled much, or who has voyaged frequently in these vessels, will admit the difficulty of preventing clothes and linen from being landed, and the frequent neglect of exposing infected articles of this description to due ventilation and cleansing before they are landed. Vessels are even not unfrequently—especially in countries where the restrictions are loosely observed—allowed to continue in quarantine until the period is elapsed, without the clothes or other personal effects of individuals having been opened up or aired; and not rarely are these articles, more especially dirty linen, sent on shore or smuggled away, without the guards either knowing the occurrence, or being able to prevent it."

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* This case was quoted by Mr. Noble, in his excellent paper in our last number (page 146). The whole of Mr. Noble's remarks on the contagion of cholera, are well worthy of the attention of our readers.

* Dictionary of Practical Medicine. Part x. page 116. The offensive odour from the clothes may have arisen from the fact that, Dr. C. had been present at the inspection of the two bodies. There is nothing to lead to the inference that the odour was actually due to the cholera poison thus transferred. It was doubtless mixed with the offensive animal effluvia.

The fact that the cholera poison thus admits of transportation, like the poisons of scarlet fever, yellow fever, or puerperal fever, cannot, in our judgment, admit of any doubt. It cannot be visibily demonstrated of any one of these diseases that they are thus disseminated in a population; but we have never heard it denied with respect to scarlet fever, and as the circumstances from which the inference is drawn are the same, we must equally admit the transport in respect to cholera, or deny it in reference to other diseases which are well known to propagate themselves by a poison evolved from the human body.

We take it, however, as conceded, that the cholera poison is imbibed by clothing. It then follows that frequent change of linen is as important to the sick as ventilation itself. Much stress was laid, in the official report of the Tooting cases, on the non-removal of sheets wetted with the evacuations, and on the fact that children just affected, were placed on beds thus contaminated by the discharges. The reporter appears to have considered that the evacuations rendered the epidemic more virulent; but the more consistent explanation is, that the sick were exposed to an atmosphere strongly impregnated with animal poison.

The disposition of the clothes and bedding of those who have died of cholera is also a subject of some importance. In some of the Tooting cases, we believe, the clothes were burnt; but this plan could not be adopted in large hospitals or infirmaries without great loss. The use of the various liquid disinfectants which have of late been proposed, is not applicable to articles of clothing; and the common practice of baking clothes in ovens is liable to lead to their destruction, owing to the impossibility of regulating the temperature to which it is necessary to expose them. The only plan which combines economy with certainty of disinfection, is that which has been patented by Messrs. Davison and Symington, and which is now extensively employed in various manufactures. This plan consists in exposing the articles of clothing in a large chamber to rapid currents of air, heated to a temperature insufficient to injure them—*i. e.* varying from 200° to 250°. We have had an opportunity of witnessing this process as applied to certain branches of manufacture, and the results were of the most satisfactory kind. In the case of infected clothing, it is obvious, that while a high temperature tends to destroy the animal poisons, a rapid current of air constantly passing through the chamber tends to carry them off. The temperature of the current of air can be so regulated that common albumen is speedily dried into a yellow transparent solid, without coagulation; or, if necessary, the heat may be increased to 400° or 500°, according to the nature of the articles which are exposed. Dr. Copland has already directed the attention of the profession to this process,* and observes that—"The great advantage of this method is its easy applicability to all kinds, and to any number of objects and articles without injury to their textures or fabrics." From an inspection of one of these chambers, when the temperature of the current of air was 116°, we can state that the process of Messrs. Davison and Symington, for the drying and disinfecting of the clothing of cholera and fever patients, will be far more efficacious than the common plan of washing and baking. In our opinion, an apparatus of this kind, fitted up in large hospitals, infirmaries, prisons, and workhouses, as well as at all quarantine stations, would be admirably adapted to prevent the diffusion of infectious diseases. We trust that this subject will receive the attention of the Board of Health.

In the London Gazette for January 26, we find the following notice from the General Board of Health:—

"The General Board of Health have in pursuance of the provisions of the act, and by virtue of an order of the Privy Council, dated September 1848, issued directions and regulations to the guardians of the Whitechapel Union to appoint medical officers to make house-to-house visitations in all streets, courts, &c. where diarrhœa, cholera, as well as typhus, scarlatina, and other epidemic diseases, have heretofore prevailed; that each medical officer shall visit the district assigned to him at least once in every twenty-four hours, and record and report his visits, administer medicines on the spot, and direct the farther treatment or removal of persons attacked, by the Board of Guardians, who are required to find rooms, &c. for their reception; and that the medical officers shall notify to contractors, scavengers, &c. all cases where cleansing is required; and all such persons are required to follow their directions forthwith."

We do not find any order for additional payment for these extra services; but it can hardly be expected that the Union officers of the Whitechapel district should have these sanitary duties thrown upon them without remuneration. We have already pointed out the anomalous state of the law on this subject. The Board of Health can compel the guardians to act,—it is at the option of the guardians to appoint additional medical officers or not, while the Board of Health can only *recommend* an addition to the salary, if, from motives of economy, the work be thrown upon their medical officers.

The Registrar-General's return for the week ending the 27th January, shows a considerable decrease in the number of deaths. They were only 39 above the weekly quinquennial average. The deaths from cholera, as reported, were 45, of which about one-third occurred in the district of Wandsworth and Clapham.

The official returns of deaths from cholera in the metropolis show that the disease is on the decline. On the 25th January the cases were 11, and the deaths 4; on the 26th, cases 7, and deaths 7; on the 28th and 29th the cases were 9, and the deaths 5; on the 30th, cases 4, and deaths 3; and on the 31st January there were 12 cases and 2 deaths.

Total cases and deaths:—

	Cases.	Deaths.
London . .	884	479
Provinces .	764	328
Scotland . .	8547	3705
	10,195	4512

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* Dictionary of Practical Medicine, Part XI. page 245.

We have to announce to our readers, that we shall shortly commence the publication of a series of papers on Diseases of the Skin, by Dr. Thomas Burgess. These papers will comprise an account of the Regional Pathology of the Skin, and include a description of the diseases which most commonly affect that structure. They will contain practical remarks on treatment, derived from observations made in the hospitals of France and Italy.

Reviews.

1. *Report on the early History and Progress of Anæsthetic Midwifery.* By Professor Simpson.
2. *Remarks on Chloroform.* By W. H. Bainbrigge, Esq.
3. *Surgical Experience of Chloroform.* By Professor Miller.
4. *Scriptural Authority for the Mitigation of the Pains of Labour by Chloroform and other Anæsthetic Agents.* By Protheroe Smith, M.D. &c. &c. Pamphlet. 8vo. pp. 52. London: Highley. 1848.
5. *On the Use of Chloroform in Dental Surgery.* By J. C. Clendon, M.R.C.S. &c. Pamphlet. 8vo. pp. 20. London: Highley. 1849.

1. Prof. Simpson, the indefatigable apostle of his own important discovery, traces, in the pamphlet now before us, the experience of himself and others in the successful employment of ether and chloroform in midwifery. We say the successful employment, because the whole body of the evidence given by Professor Simpson, and by other accoucheurs in this pamphlet, is of the successful kind. We are satisfied of the perfect good faith with which the details are given, but we must express our conviction that some evidence adverse to its frequent employment might be placed side by side with the flattering picture of anæsthetic midwifery here presented to us. We shall, however, refrain from bringing to bear, in this place, all evidence of an adverse character, and do little more than simply give an analysis of the Professor's Pamphlet.

The first instance in which anæsthesia in midwifery was adopted was in a patient of Dr. Simpson's, who, having deformed pelvis, was delivered by turning while under the influence of ether, on the 27th of January, 1847. The result was satisfactory. On the 8th of February, Professor Dubois exhibited ether in a case of forceps operation, and on the 23d of February he had used it in four other deliveries. The following are Professor Dubois' conclusions:—

> "1. The inhalation of ether can annul the pain of obstetrical operations.
>
> "2. It can suspend the physiological pains of labour.
>
> "3. It destroys neither the uterine contractions nor the contractions of the abdominal muscles.
>
> "4. It diminishes the natural resistance of the perineum.
>
> "5. It does not appear to act unfavourably on the health or life of the infant." (p. 9.)

Anæsthetic midwifery was subsequently and successfully practised in England, Ireland, Germany, and America.

In November, 1847, a new impulse was given to the practice of anæsthesia in midwifery by the introduction of chloroform.

Dr. Simpson presents us with the following results of the practice of anæsthesia in midwifery in 150 cases:—

Results to the children.—Of the 150 children, 149 were born alive; in the exceptional case, the child was in a putrid state. Only one died (from cyanosis) during the first few weeks. It is not known that any of the children have suffered from cerebral affections. The action of the fœtal heart is little, if at all, increased in rapidity when the mother is in a state of anæsthesia.

Results to the mother.—The pains of labour in the last stage are "absolutely indescribable." None of the patients, with one exception, were aware of these "absolutely indescribable" pains, anæsthesia having always been induced for a longer or shorter time before their supervention, and being kept up for a period varying from a few minutes to six or more hours before delivery.

The prospect of undergoing parturition without the usual agonies, has in many cases destroyed the anxiety and dread of anticipation which previously annoyed the female.

Anæsthesia warded off the effects of that exhaustion and nervous depression which the pains and shock of delivery tend to produce, and those secondary vascular excitements which are apt to follow upon them. It also increased the chance of a more speedy and healthy convalescence. Since following the practice of anæsthesia, Dr. Simpson has seen both more rapid recoveries than formerly, and fewer puerperal complications.

Mode of exhibiting chloroform.—We have much pleasure in extracting the following practical observations on the mode of exhibiting chloroform, coming as they do from Dr. Simpson, and being the result of his extended experience in midwifery.

"*Mode of exhibiting chloroform, dose, &c.*—In the course of the preceding observations, I have omitted making any remarks on the degree of artificial anæsthesia required in obstetric practice, with the exception of stating that, when instrumental or operative interference is adopted, the anæsthetic state must be made adequately deep,—so deep, that the patient must be rendered quite passive and apathetic. In fact, when induced for operative purposes in midwifery, the anæsthetic state should be as complete and profound as when it is induced for operative purposes in surgery. But, in common cases of parturition, the anæsthetic agent employed, whether chloroform or ether, does not, in general, require to be given in such large doses as in surgical practice.

"The *two* main difficulties which every beginner meets with are these—namely, to keep the patient in a state unconscious of pain, and yet not so deeply anæsthetized as to have the uterine action interrupted: for too deep a state of anæsthesia in general interferes with the force and frequency of the uterine contractions, while a lesser degree of the anæsthetic state leaves these contractions unaffected; and a still smaller dose often excites and increases them,—the effects, in this respect, of chloroform upon the uterus, being similar to the effects of opium in different doses. But the influence of the inhaled agent passes off in a few minutes, differing in this respect from the more permanent influence of a drug when swallowed; and if, at any time, the anæsthetic effect is too deep, and the uterine action is in consequence impeded, all that is necessary is to abstain entirely from exhibiting the chloroform for a short time, till the parturient contractions have been allowed to come back to their proper degree of strength and frequency; and then the anæsthetic agency is to be sustained as before, by giving the vapour with every recurring pain, but in smaller doses, or for a shorter time during each pain, than was previously practised.

"During the anæsthetic sleep which chloroform induces in natural labour, the patient usually lies perfectly quiet and passive in the intervals between the pains, but moves more or less, and sometimes moans, as each uterine contraction begins to return. In the last stage she generally, with every recurring uterine contraction, makes the usual violent bearing-down muscular efforts, and the struggle can often be marked in the expressions of her face. The muscular action of the uterus and assistant muscles goes on, and yet she remains quite unconscious. The strictest quietude should always be observed and enforced around the patient; for noises and speaking, particularly soon after the chloroform is commenced, will sometimes excite and make her talk; and, if this happen, we may require to exhibit to her a deeper dose than would otherwise be at all necessary.

"The quantity of chloroform used varies both according to the duration of the labour, and the susceptibility of the patient. Usually, when the handkerchief is used, about an ounce an hour is necessary, a small quantity being poured upon it from time to time. A less dose will suffice in some, and others require more. In one case lately, where the patient, in a first labour, was anæsthetized for two hours, I expended nearly six ounces,—large doses being necessary to keep her in a sufficiently deep state of unconsciousness. The first quantity which I pour on usually amounts to three or four drachms; but I always judge by the *effects*, not by measuring the dose; and I pour on an additional quantity in a minute or so, if it be required. In holding the handkerchief towards the patient, I take care that plenty of atmospheric air is admitted,—and seldom or never put it in contact with the face.

"When exhibiting chloroform in obstetric practice, and in the way I have described, I have been often struck by the circumstance, that its use is very rarely followed by sickness or vomiting.

"In addition, let me state, that I have usually begun the employment of the chloroform when the os uteri was well dilated, or towards the termination of the first and the commencement of the second stage of the labour. But when the pains were severe, I have commenced it earlier, and when the os uteri was still comparatively little dilated. There is, I believe, no limit as to the date of the labour at which we may give it." (pp. 16-21.)

Dr. Simpson, and the profession generally in Edinburgh, still give the preference to the mode of administering the chloroform originally practised. In London, the simple napkin, saturated with chloroform, has been almost universally replaced by one or other of the numerous chloroform inhalers. If these latter fulfil the important conditions of admitting at will any proportion of pure air—of readily vaporizing the chloroform—and of easy and gradual application and withdrawal,—we conceive that they are better adapted for their purpose, more easy of renewed application and removal, and safer than Dr. Simpson's mode of administration with the napkin. It will be fresh in the memory of our readers, that in the greater number of the fatal cases, the patients were chloroformized with the aid of a napkin.

Dr. Simpson then gives a series of letters from various medical men in Scotland and England, and from Dr. Tyler in Ireland. The Scottish evidence is throughout almost an echo of the experience of Dr. Simpson himself. The same may be said of most of the evidence from England, especially that supplied by Dr. Protheroe Smith. Dr. Haartman, in an interesting account of his experience in the Lying-in Hospital, in Westminster, states that, during the full effect of the chloroform, the uterine contractions became less frequent and powerful; but when the effect had passed off a little, they then became more frequent, and shortened in duration.

> "Besides, I think that in this state the uterine contractions in general came on more suddenly than in common labour—a circumstance which, however, may depend on an illusion, by the absence of pain existing and announcing the action of the uterus in the usual labour. I have never observed the uterine contractions quite arrested, yet often somewhat delayed. In two cases in which I thought the chloroform had very much relaxed the rather rigid parts, I had, notwithstanding, rupture of the perineum." (p. 36.)

In making some remarks adverse to the alleged difficulties in the superinduction of anæsthesia, Dr. Simpson warns his readers against giving the vapour too slowly, and in too small a quantity, thus producing an exciting instead of a soporific action, and against the employment of impure chloroform.

In the concluding sections, Dr. Simpson meets the objections to Anæsthesia in Midwifery made by Dr. Meigs, Dr. Ashwell, and Dr. Merriman.

> "Dr. Merriman opposes the employment of anæsthesia in natural labour, on the ground of 'the great superiority of allowing nature to conduct the whole process of the birth.' But the practice of anæsthesia does, in reality, allow 'nature to conduct the *whole* process of the birth:' it merely abstracts that intensity of pain and suffering which accompanies the act of labour in the civilized woman." (p. 44.)

Dr. Merriman would restrict the use of chloroform to "instrumental or very tedious labours." Dr. Simpson, on the contrary, would extend its use to *all* cases of natural labour. There can be little doubt that the true medium lies somewhere between these two opinions; that anæsthesia is desirable in some cases of natural labour (especially in primiparæ, and in those who suffer much from, or are anxious about, pain), but not in all. Anæsthesia in midwifery, when properly emyloyed, and in fitting cases, is unquestionably of great value; but the real value of this important acquisition to obstetric practice, cannot be known until we have the revealed and sufficient experience of moderate-minded, practical, and unbiassed accoucheurs.

2. Mr. Bainbrigge's Remarks on chloroform are addressed particularly to the female sex, shewing that there is no scriptural authority to interdict its administration for the mitigation of physical pain under any circumstances! We certainly agree with Mr. Bainbrigge that there is no scriptural authority against the administration of chloroform! Mr. Bainbrigge's professed object is to remove the local prejudices against chloroform from the minds of the fair sex in Liverpool.

3. We expected to derive much information from Professor Miller's "Surgical Experience in Chloroform;" but we must confess that we are greatly disappointed.

It would be perhaps unfair to criticise the Professor's pamphlet very strictly, as it only professes to be the publication of his lectures on the subject; but we protest strongly against the propriety of a professor telling pupils who ought to look up to him for guidance, such absurd stories as those related at pages 10 and 35 of his pamphlet. They are better fitted for the pages of "Joe Miller's" jest book, than for those of an essay by a University professor.

At page 38 the author states, that in the "fatal cases which have occurred elsewhere, it is by no means proved that the anæsthetic agent was the cause of death;" but instead of giving a scientific analysis of the cases so as to render his position probable, he evades the real question by presenting his class with ludicrous pictures of a school-boy's brawl,—a patient lost after an operation, and a day's debauch!

Although no "fatal case" of chloroformization has occurred in Edinburgh, yet it appears from the following extract that some of the cases have had a narrow escape:—

> "With scarcity of assistants, I have repeatedly, during an operation, been startled by the stertor becoming unpleasantly loud; looking up, I have found the handkerchief or lint lying unwatched on the face, and, on removing it, have discovered a nearer approach to the external signs of asphyxia than was at all agreeable." (pp. 21-2.)

We agree with the author that it is improper to make over the duty of administering chloroform to an ordinary bystander. "The administrator must be professional, expert, and, if possible, accustomed to the work."

Professor Miller divides his pamphlet into numerous sections. These do not generally call for comment or extract, as they for the most part give only the ordinary and confirmed results of the employment of anæsthesia. We may, however, refer our readers to section XXV., which contains valuable precautionary suggestions, to the effect that "in operations of the mouth and nose, anæsthesia must be used warily if at all;" to section XXVII., which shews that "in operations on the skull and brain, anæsthesia is not contraindicated;" to sections XXX. and XXXI., which state that "anæsthesia lends much assistance in the treatment of irritable stricture, and renders the operation of sounding safer;" and to section XXXII., which indicates that "by anæsthesia, lithotomy, in cases of diseased kidney, may be rendered both warrantable and hopeful."

In section XXXVI., which gives a short account of the cases in which anæsthesia is inadmissible, Professor Miller says:—

> "In cases of undoubtedly diseased heart also, or when from any cause we have reason to apprehend unusual risk from syncope, as well as proneness to it, it may be a question whether chloroform be wisely given or not. And yet in many undoubted examples of diseased heart it *has* been given harmlessly." (p. 59.)

The author does not include cases of cerebral disease, as he should have done, among the inadmissible cases; and he takes no notice of Dr. Snow's important and practical discovery of the "cumulative effects" of ether and chloroform.

In condemning the faults and defects of Professor Miller's pamphlet, we gladly do justice to the general clearness of his arrangement and style, and to the practical value of many of his observations.

4. Although with Dr. Smith, the author of the fourth pamphlet on our list, we subscribe to the ethical axiom, "that a proposition is valueless in proportion as it deviates from truth;" we are by no means equally convinced that in the present instance a very lengthy or laborious refutation of such a proposition was called for. The statement "that the mitigation of the pangs of labour is contrary to the expressed will of the Almighty," is assuredly valueless in the extreme, being diametrically opposed to truth. It is also clear, that whether this mitigation be procured by chloroform or any other mode or agency, is entirely immaterial —save in respect of this important reservation, *that the means employed for the purpose be not attended with danger to the life of the sufferer.* This, although in truth the only important practical question, is not now under consideration. Dr. Smith's pamphlet, while it contains copious extracts from Dr. Simpson's philological and theological observations on the same subject, also branches off into a very long and, we think, somewhat irrelevant discussion, of the sublime doctrines of Gospel truth, intermingled with anatomical and physiological facts. It seems to us that the answer to the whole objection lies within a much smaller compass: it may be given in a few words,

without searching deeply for Hebrew or Greek roots, or entering into profound theological arguments. It must be clear to all, that the plain English word "sorrow," applies to the whole history of female life as regards child-bearing. From the cradle to the grave, or at least from puberty to the grave, the condition of the female frame, and all its functions, physical and moral, are *either* preparative, dependent upon, or resulting from, the office of reproduction. The life of woman is therefore in this sense a constant commentary on the text, "in sorrow shalt thou bring forth children." All experience tells us that the curse is not yet removed—the "sorrow" is not confined to the mere act of parturition, but is bound up in all that woman suffers in relation to this process: the refutation, therefore, of the objection, mainly rests on the exposure of this misinterpretation.

The author must permit us to doubt whether he has done service to the cause of religion by his advocacy; or whether his arguments drawn from the introduction of the Christian dispensation, do not altogether overlook its most vital principles.

5. Mr. Clendon's pamphlet is devoted to an examination of the use of chloroform in dental surgery. It is sensibly written, and the author states very candidly the reasons for and against the employment of this agent. He justly observes:—

> "In the reports of cases I have seen published, they all appear to me to proceed too smoothly and uniformly. We are told, or led to infer, that the object in view, namely, unconsciousness, or insensibility to pain, was satisfactorily induced, and the operation proceeded quietly to its termination; no mention is made of the unpleasant, or, to say the least, inconvenient, effects which sometimes attend its employment. Suppressing points of such apparent importance, or endeavouring to gloss them over, instead of advancing the character of chloroform, tends to bring it into disrepute. Thus, when the friends of the patient present at the operation, who have not been prepared for such results, witness the excitement during inhalation, and the sickness on the return of consciousness which sometimes ensue, they very naturally feel alarmed; and although the patient may assert his unconsciousness of all that has passed, and total insensibility to the pain, the declaration is received with some degree of doubt, and an impression remains not altogether favourable to the use of chloroform." (pp. 4-5.)

Mr. Clendon does not consider chloroform so well adapted for dental as for other surgical operations. The effect should be produced by one administration; for it will be found seriously to embarrass the operation if the chloroform be reapplied when there is a collection of blood and saliva in the mouth. As to the effects:—

> "A casual observer, even, cannot fail to remark the various and opposite effects of chloroform on different individuals of the same age and sex; no experience, however, will enable us to determine beforehand what the precise effects will be. It is true we may confidently rely on insensibility to pain; but whether this be preceded by a state of tranquillity or excitement, whether the duration of insensibility be one minute or ten, or whether the patient will wake up with a smile, or suffer from sickness and prostration, no one can previously determine." (p. 8.)

The following table of the effects produced as the result of the experience of the author, is interesting:—

"Excitement only	3
Consciousness, sensibility, with loss of motor power . . .	5
Struggling during inhalation, and during operation, with insensibility to pain	12
Tetanic contraction of muscles during inhalation, with insensibility	7
Insensible to pain, consciousness retained	9
Unconsciousness, insensibility, with loss of motor power, gradually and quietly induced . . .	64
	100

"The above 100 cases were taken consecutively, as they presented themselves, without selection or rejection in any instance. Three-fourths were females of the educated classes, of ages varying from ten to fifty-five years. It will be perceived that insensibility to pain was produced in ninety-two cases; the remaining eight must be considered, in a great measure, failures. Sickness, on the return of consciousness, occurred in twenty-six instances; and prostration or debility—rendering it necessary for the patient to lie down on the sofa—in thirty-eight, including the twenty-six who suffered from sickness. The duration of the debility—that is, before the patient was well enough to leave the house—varied from ten minutes to three-quarters of an hour." (p. 10.)

There is a prevalent impression that no case in dental surgery can justify the use of this agent. Mr. Clendon, however, reports some cases in which its use appeared to be absolutely required, and in which the patients were relieved by it from much protracted suffering. This pamphlet may be taken as representing a very fair and unbiassed view of the use of chloroform in dental surgery.

Proceedings of Societies.

WESTMINSTER MEDICAL SOCIETY.

Chloroform in Midwifery.

The Westminster Medical Society has been occupied during its last three sittings with a discussion on the above important subject. Unusual interest was excited by the occasion, the Society's rooms being nightly crowded with fellows and visitors.

Dr. Snow, in opening the subject, said that the chief objections that had been made to the use of anæsthetics in midwifery were of an *à priori* kind, but that the question ought to be decided by the result of experience. Some objections had arisen from the supposed necessity of inducing a deep state of insensibility, and he was of opinion that if it were requisite to cause the same amount of insensibility in midwifery as is required in operations in which the knife is used, that would be a valid objection, as he considered that this state could not be continued for two or three hours without injury to the patient. But this amount of insensibility was not required in obstetric practice unless to arrest or diminish strong uterine action for a few minutes to facilitate turning the child. The suffering attendant on labour might often be greatly relieved, or even altogether removed, without suspending the consciousness of the patient. Towards the conclusion of labour it was usually necessary to carry the effect of the vapour a little farther, but even then it should not exceed the second degree, or that condition of the patient in which the mental functions are not altogether suspended, but in which there is a dreaming or wandering state of the mind, the patient, nevertheless, usually remaining silent if not spoken to. In labours unassisted by manual or instrumental aid, the auxiliary action of the respiratory and even the voluntary muscles, continued without interruption when the chloroform was well managed. He considered that a medical attendant acquainted with the action of chloroform, and the mode of applying it, might administer it with propriety in all cases in which the pain was either severe or protracted, whether they fell within the division called natural labours or not. Dr. Snow related two cases in illustration of the beneficial effects of chloroform. He used an apparatus in administering it, and gave a little at the beginning of each pain. He disapproved of Dr. Simpson's plan of giving chloroform on a handkerchief, and more particularly of his practice of putting three or four drachms on the handkerchief to begin with. To show the danger of this practice, he alluded to the fatal cases published, and read some notes, furnished to him by Mr. Henry Smith, of a case in which the patient very nearly lost her life from chloroform given in this manner preparatory to an operation. Chloroform was of great service in removing rigidity of the os uteri and of the perinæum, and it had relieved puerperal convulsions in two cases on record. He concluded by remarking, that as all medical men were actuated in their views only by a desire for the well-being of their patients, the difference of opinion in the profession concerning the employment of chloroform in midwifery ought not to be attended with any acrimonious feelings.

Mr. Greenhalgh related two cases in which he had given the chloroform previous to the use of the forceps. He had no doubt of the great value of the agent in these instances. In two cases of turning he had also employed this medicine with the best effect. He had used chloroform altogether in thirty or forty cases, and had never seen any ill effects result from it.

Mr. I. B. Brown had employed chloroform in fifty-four cases. In all it had been of service. It had been objected to the use of this agent, that it caused the death of the child; but in no instance had this occurred in his own practice.

Dr. Lankester considered that we wanted some further statistical evidence to prove the real value of chloroform in obstetric practice.

Dr. Merriman mentioned a case in which the pulse had fallen to forty in a patient who had taken chloroform in the Westminster Lying-in Hospital.

Dr. E. Murphy spoke at great length on the subject. He proceeded to argue that many of the objections to chloroform had been founded, not so much on the real merits of the agent, as on our ignorance of its true action. Doubtless, further experience was required by many to test its merits, but it must not be supposed by the opponents of this most valuable medicine, that those who employed it used it indiscriminately, or gave it a character to which it was not entitled. What, then, were the cases in which it was to be employed? Certainly not in every natural labour, if it proceeded in that tranquil manner which did not call for interference. In those cases, however, in which there was great mental excitement, arising from extreme suffering, and which interfered with the progress of parturition, chloroform was a great boon; for it must not be supposed for an instant that these were true physiological pains, for they were due to causes of which civilization formed the chief. It was only in savage life that real labour-pains were present. He summed up the cases in which chloroform was advisable, as those in which it allayed excessive irritability, and mitigated unusual pain—in the operations of midwifery, in which it not only facilitated the proceedings of the obstetrician, but relieved the intensity of the suffering consequent upon such interference.

Saturday, January 6, 1849.

Mr. Harvey opened the adjourned debate by asking Dr. Snow whether he considered chloroform a remedy in cases of puerperal convulsions; and inquiring of Dr. Murphy whether he was so satisfied with the use of this agent as to recommend it to his class.

Mr. Gream objected altogether to the use of chloroform in obstetrics. The first objection he mentioned was the very uncertain quantity required to produce its effects: it had, indeed, a cumulative property which might suddenly develope itself and destroy the patient. He believed that a very short time only would elapse before chloroform would cease to be heard of in midwifery. Dr. Rigby, it would appear, from an extract from a letter lately written by him, had already lost much of his confidence in it, and declared that it should be used only in the "latter stages of labour." Mr. Gream then entered into a very lengthy and elaborate statement of his objections to this medicine. They were of two kinds, moral and medical. Under the first head, he quoted a humorous description by Prof. Miller, of the first discovery of chloroform as an anæsthetic agent; this description he did not hesitate to consider as having the authority of Dr. Simpson, who was not only present at the "convivial board," but the intimate friend of the author. The effects of the agent were very decided, at first simulating the "victorious" nonchalance of "Tam O'Shanter," and ending with the spectacle, to a beholder, of the worthy Edinburgh Professor kicking and sprawling under the tables and chairs. Mr. Gream then alluded to several cases in which women had, under the influence of chloroform, made use of obscene and disgusting language. This latter fact alone he considered sufficient to prevent the use of chloroform among English women. The medical reasons consisted of the fact of his having heard of twelve cases of convulsions arising from its use; and five cases of mania following its employment. In addition to these serious results, he declared that it had already been attended with fatal effects in thirty-two instances. He alluded to the cases recorded by Dr. Simpson, in one of which he (Mr. Gream) attributed rupture of the uterus entirely to the chloroform; and he considered that in Dr. Haartmann's cases the ruptured perineum was attributable to this cause.

Dr. Sibson said that Dr. Simpson was not responsible for Prof. Miller's pamphlet. He considered that in all cases in which there was a tendency to congestion in the head, chloroform was unadvisable.

Mr. Hird argued that the objections against chloroform might be urged with equal weight against all poisonous remedies, as opium, arsenic, &c., but with no better foundation.

Dr. Tanner mentioned a case of an operation in King's College Hospital, on the vagina of a prostitute, in which ether produced lascivious dreams.

Mr. Hancock had noticed this effect in some cases he had operated upon.

January 13.

Dr. Rogers said, that so far from the chloroform causing immoral emotions, in his practice he had noticed the very contrary effects, as during delivery the patients were not only thankful, but prayed most eloquently, and sung psalms and hymns in an angelic strain. His own experience was not extensive, as he had only given chloroform in twenty cases. In all it seemed of the greatest service, and in none had he been able to trace the slightest ill effects from its use.

Dr. Reid was not an opponent to the use of chloroform in obstetric practice. He had, however, never advocated its employment, and his experience of late had tended to make him think less favourably of it than he formerly did. He entered at some length into three cases in which he had employed it. In the first instance, a lady who had always suffered severely during her first five confinements, in which he had attended her, but in all favourably recovered,—indeed, without a bad symptom,—had in her sixth confinement taken chloroform. He did not believe that it had at all diminished her sufferings, and from that hour to this, a period of three months, she had been a dreadful invalid, suffering from a train of nervous symptoms such as he had never witnessed, and of which Dr. Merriman only recollected one parallel instance in his vast practice, and that was the result of intense drunkenness. The chief symptoms in this case were most distressing sickness and headache. He believed a somewhat similar case had occurred to Dr. Fergusson. In other cases the chloroform had not relieved the pains of labour.

Mr. **Wade** has employed chloroform pretty extensively in private and dispensary practice in all kinds of persons, and various kinds of operations; he had never seen any "immoral" effects produced, and thought this a poor argument against chloroform.

Dr. **Cape** said that chloroform was only useful in allaying pain, and this was not a source of danger: he was against its employment.

Dr. **Snow** replied, in answer to Mr. Harvey's question, that he had not had any opportunity of giving chloroform in puerperal convulsions himself, but he believed that it might be safely tried in most instances, and its use need not prevent that of blood-letting or other remedies. There was no uncertainty in the action of chloroform; the quantity required could always be ascertained exactly by observing the effects; and it was attended with no risk whatever in the hands of medical men who had paid attention to its effects and mode of administration. He thought that Mr. Gream had not given due consideration to all the circumstances of the case to which he had alluded, but had hastily attributed injurious and fatal effects to chloroform, which were quite unconnected with its use. He considered that there was no foundation for the imputation that the use of this vapour in labour could be attended with immoral effects. "*In vino veritas*" was as true of chloroform as of alcohol, and therefore respectable patients would never make use of immoral expressions. It was true that in a state of partial insensibility, there might be dreams of various kinds, as in natural sleep; but if the patient were not injudiciously questioned or spoken to, she would nearly always remain silent. He had never seen any effects which caused the least unpleasantness to the relatives or friends of a patient; and if it should happen in some rare instances that expressions should escape which the patient would not utter when exercising her usual reserve, they could cause no uneasiness to the judicious attendants of the lying-in room, who would feel only rejoiced that severe pain was prevented; nor to the patient, who would never be told of them. Sickness and headache occasionally followed the use of chloroform in surgical operations, and lasted a few hours, but he had not seen these effects after its use in midwifery, where a much less deep insensibility was required; and in two instances in which sickness attended labour, it was removed by the chloroform: if the distressing illness in Dr. Reid's case were really due to the vapour, it must be a very unusual result. The discussion which had taken place impressed the opinion strongly on his mind, that if the body of the profession had had the same opportunities of witnessing the effects of chloroform in obstetric practice, when administered by a person accustomed to its use, that the operating theatre afforded with respect to its use in surgery, medical opinion would long since have been settled in favour of the practice of anæsthesia in all labours in which the pain is either very severe or protracted; for in such cases he found the benefits of it not less than in surgical operations.

MEDICAL SOCIETY OF LONDON.

Monday, January 15, 1849.

Mr. Hancock, President.

Dr. **Willshire** read a paper on the

Pathology of certain Affections of the Mouth in Children.

The first portion of it was occupied with an account of the varieties of what the author, in common with late Continental writers, denominated *stomatitis*, and many of which, by the older ones, were all confused together under the general term of *thrush*. Between these writers distinction was endeavoured to be drawn, and attempts made to prove that these several affections might be arranged under three heads, viz.—1, forms exemplifying inflammation alone; 2, those exemplifying inflammation with ulceration; 3, those characterised by inflammation with exudation. Under the first was to be included simple erythematous stomatitis; under the second, ulcerous stomatitis; under the third, the follicular stomatitis of Billard, the *muguet* of the Continental writers, and true thrush; and pseudo-membranous stomatitis. The nature of these several forms of mouth disease in children was then entered into in detail, with the exception of that of *muguet*, or true thrush, the consideration of which afterwards formed the second portion of the paper. After a general description of this variety of the disease, the author entered minutely into the views which have lately been advanced by Dr. Berg, of Stockholm, Grüby, and others, in relation to which our space permits us to make only the following extract from it:—"I now," remarked the author, "arrive at the question—What is the nature of true thrush in children? It is undoubtedly the fact, if we are to believe the observations of Grüby, Berg, and others, and if my own are of any value, that this white, curdy matter, when examined under the microscope, exhibits abundant evidence of the presence of a low form of life, of vegetable organization, in the shape of a minute fungoid parasite, forming a very considerable portion of the curdy or creamy layer. This I have seen the more easily when I have acted on the suggestion of Dr. Berg, of adding a weak solution of potassa to the matter, which dissolves the albumen, renders the cells transparent, diminishes their cohesion, and permits the network of vegetable fibres to be more distinctly seen. Of the presence of this vegetable organism among the scales, cells and albuminous deposit, there is, to my mind, not a doubt. But this is the least part of the story, the chief of which is—What is the pathologic interpretation we are to place upon its presence?—I think, a very simple one; Dr. Berg and others, a vital and important one, when they assert that in its presence they see the exponent of the pathologic essence of the disease." After a detailed inquiry into Berg's and Grüby's views, Dr. Willshire goes on to remark—"I should humbly differ with Dr. Berg, and say that the presence of the deposit in the mouth is preceded by symptoms of general disorder, and by erythematous stomatitis; that the local and general symptoms which accompany true thrush are not *secondary* consequences of the presence of the parasite, but that the existence of the latter is to be regarded as an effect of the *former*; that the white, creamy layer, *at first*, is a plastic exudation deposit, the result of a peculiar variety of inflammation; and that the presence of the vegetable parasite is not an essential element, or the pathologic essence of the disorder, but only a contingent, secondary phenomenon, its generation easily explainable according to well-known laws ruling the so-called decomposition of organic matter......... Whenever organic matter or cells, previously crowded with a special form of life, are passing into a state of so-called decomposition, a certain amount yield up their vitality to the then overwhelming laws of chemistry and physics, whilst other cells preserve their great endowment of the spirit of life, and take on a new form of organic existence, differing from the particular nature of the special organism of which they previously had formed a part, and enter into the formation of other and low types of animal or vegetable existence. ...... And what more likely than that the organic cells of the exudatory products of inflammation of the lining membrane of the mouth, forming the curdy layer in thrush, loaded at the same time with the remains of vegetable and animal material the child takes as nutriment, &c., should pass into a state of decomposition, not unlike, in some respects, fermentation, and as it does, give rise to the generation of a low form of vegetable growth." The author then went into details concerning contagion and inoculation by means of the sporules of the vegetable parasite, however it might be supposed to be produced, or whatever pathologic importance was to be attributed to it; referring especially to the negative experiments of Grüby, detailed by Mr. Busk, in the *Microscopic Journal*, relative to the inoculation of the vegetable parasites found in other affections. Numerous other points were also discussed, so as to lay before the Society a general critical analysis of the various pathological doctrines of late years advanced in relation to this and other, allied diseases. The paper was illustrated by numerous drawings of the different varieties of stomatitis, and of the microscopic appearance of the creamy layer of true thrush.

Monday, January 22, 1849.

Mr. Harvey stated, in reference to Dr. Willshire's paper, read at the last meeting, that the chief value of arriving at a clear knowledge of the pathology of a disease was its treatment. He should therefore like to know what treatment Dr. Willshire adopted in the different forms of stomatitis, &c.?

Dr. Willshire replied, that in his paper he had purposely left out of consideration all therapeutics, as he had aimed only at analyzing and methodizing the pathology of these affections, and whose pathology was a very extensive subject. He might then say, however, that though differing in many points from the pathologic views lately advanced by several writers, he, in the main, acquiesced in their therapeutics. In general terms, he would reply, that, in a great many cases, all forms of the disease demanded both a constitutional and local treatment. The secretions were mostly acid, and rhubarb and soda should be given at bed-time, and the biborate of soda, in mucilage, allowed to dissolve in the mouth. In ulcerous and follicular stomatitis, the chlorate of potassa, as recommended by Dr. Hunt, was an invaluable remedy. Very often the administration of tonics was advisable. In all cases—but more especially in the infant—great care was requisite to be taken with regard to the diet. This was a constant source of thrush in the artificially-fed child. The application of the nitrate of silver was often most useful to the ulcerations and exudations, but sulphate of copper, alum, and other agents, had been recommended. As a general local remedy, in slight cases, the borax, in mucilage, instead of in honey, was to be recommended, on the principles of Dr. Berg; saccharine matters, in everything, being omitted when the affection presented the parasitic growth,—why, he had already stated in his paper.

The discussion which ensued offered nothing for a report.

ROYAL INSTITUTION.

Friday, January 26th, 1849.

Professor Faraday on the Crystalline Polarity of Bismuth and other bodies, and its relation to the Magnetic Force.

Professor Faraday, in speaking of the connection of magnetism with crystallisation, said his object was to demonstrate the magnetic relations of matter in virtue of its crystalline condition. To illustrate the subject, his large and powerful electro-magnet was employed. To show the extraordinary power existing in the space between the two poles, Dr. Faraday suspended, by a fine thread, a piece of copper in that space: when connexion with a powerful Grove's battery was made, the copper, which was spinning round with great velocity, suddenly stopped, although it was a non-magnetic body; when connexion was broken, it again went on revolving round its point of suspension. He moved a plate of copper backwards and forwards between the poles with ease when connexion was not made; but when it was made,—he could only move the copper plate with great difficulty, apparently sawing the air. There was evidently great resistance from the magnetic current which traversed it. He placed a copper disc between the poles, and by machinery caused it to revolve with great velocity: as soon as connexion was made, the plate ceased to revolve. The copper was here used to illustrate the extraordinary force in the space between the two poles—a force which acts not on copper only, but on any other body (the hand for instance), that may be placed in it.

Dr. Faraday then showed the relation existing between the magnetic force and a crystalline plate of bismuth. Bismuth, when not modified by crystallisation, is diamagnetic; it stands almost at the head of diamagnetic bodies, being repelled from the poles of a magnet with the strongest power. On taking cylinders of bismuth that had been cast in glass tubes, and placing them between the poles, each cylinder vibrated backwards and forwards, and finally set in a definite direction, to which, when displaced, it always returned. It was found that as these cylinders broke with a cleavage plane, they were crystalline, and that the crystalline quality of the bismuth was connected with this singular direction. When many crystals, each perfectly symmetrical, are associated, they all present the same plane in the same direction; it was thus with these cylinders of bismuth, the particles of which were arranged with regularity. They pointed uniformly in one direction, although still repelled by the poles of the magnet. Different cylinders of bismuth pointed in different diamagnetic directions, and these were found to correspond to certain planes or facets of the crystal.

A piece of bismuth was then suspended by some threads of cocoon silk, and placed in the magnetic field, *i. e.* between the poles. On making contact, the bismuth vibrated to and fro, and at length set in a certain position. If the bismuth was moved it returned, and again set in the same position; but if it was turned sufficiently far round, it set, not in the same, but in a diametrically opposite position. In this respect it differs from the magnetic needle, which always sets with one end to the north; while crystalline bismuth sets in two diametrically opposite directions, and has therefore no polarity. If the crystalline bismuth be melted or powdered, and placed in the magnetic field, it no longer sets in a definite direction, being acted upon like ordinary bismuth,—*i. e.* it is repelled by both poles.

Bismuth crystallises in an oblique rhombic prism, nearly, but not quite, a cube: on removing its solid angles at the four cleavage planes, an octohedron is formed. The magne-crystallic axis in which the crystal sets is in the direction of two of the planes of cleavage, one of which is always brighter than the rest. The magne-crystallic axis must be determined by experiment. There is just as much magneto-crystalline force in the broken fragment of a crystal as in a regular or entire crystal.

This remarkable action cannot be called *polarity*, seeing that the magnet, indicating polarity, points only in one direction; while crystallised bismuth, indicating diametrality, points equally in either of two directions, the one diametrically opposite to the other. Hæmatite, which is magnetic, is attracted by the north magnetic pole, but uncrystallised bismuth is equally repelled by both poles.

From Bismuth we are led on to Antimony, which, like it, when crystalline, points in the magnetic field, axially, in a certain direction to its crystalline plane, and in diametrically opposite directions. The same with arsenic, the small crystalline scales of which point with extraordinary power: if the scales were large, arsenic would probably shew a greater force than either bismuth or antimony.

Has this force any relation to diamagnetism? Not so; for the crystals of magnetic bodies are as perfectly magne-crystallic as those of diamagnetic bodies.

To illustrate this, Dr. Faraday suspended a large and symmetrical crystal of sulphate of iron in the magnetic field, adjusted in the same manner as the bismuth: the crystal was very magnetic, being attracted by the pole. At first, it was not placed in a magne-crystallic direction. He then turned it 90° round: it moved immediately, and swung about, vibrating and setting on a fixed line, in which position, or in the diametrically opposite direction only, it would remain. The magne-crystallic axis in iron is always perpendicular to a certain facet. Dr. Faraday suspended in the magnetic field a platform, and placed in it three symmetrical crystals of sulphate of iron: they were laid in a line so as to coincide one with the other: they pointed axially. He then turned each of the three crystals 90°: they immediately pointed in a different direction. The magnetic property was still preserved, but the magne-crystallic force overcame the magnetic force.

Magne-crystallic force is an induced power,—induced by the strong current of magnetism: it is not excited either by attraction or repulsion; it is a setting power without either attraction or repulsion, no polarity—no attraction—no repulsion—nor yet is it a power inherent in the crystals: it is none of these, but it is an induced condition.

Dr. Faraday concluded this most interesting lecture by promising, on a future occasion, to give an account of the analogous researches of Professor Plücker, of Bonn.

There were exhibited in the Library, 48 of Mr. Goadby's remarkably beautiful preparations. These were put up by Mr. Goadby in his flat and upright cells, and preserved in his preserving fluid. Many of them were large, perfect, and semi-transparent specimens of the fragile, almost unsubstantial, acalephæ. Many of these, it has been found, will dissolve and disappear entirely if placed in spirit for one night. On Mr. Goadby's plan, the specimens are perfectly preserved, with all their exquisite delicacy, beauty of form, and transparency. Mr. Goadby placed these specimens first in an aluminous fluid, composed of bay salt, 4 oz.; alum, 2 oz.; corrosive sublimate, 4 grains; sea-water, 2 quarts. In this solution, which coagulates the tissues, they were allowed to remain for six hours or longer. They were then transferred to Mr. Goadby's B fluid, which contains corrosive sublimate, 2 grains to the quart, and sufficient bay salt to raise the specific gravity of the fluid to 1148. The preparations were not to be put at once into the fluid of this density, as they would then corrugate: the bay salt was added gradually, so as to allow the fluid in the specimens to escape, and to be replaced gradually by the stronger fluid, which will thus permeate all their tissues, and that without causing them to shrink. We trust that these specimens, many of which are unique, will be preserved in one or other of our national museums.

Among the specimens exhibited were the Aurelia, Physelia pelagica, Cyanœa, several varieties of Thaumantia, Sarsia, Beröe, and Cydippe.

ACADEMY OF MEDICINE.

January 23.

President, M. Velpeau.

M. Blatin on the

Treatment of Asiatic Cholera by the free use of Cold Water, and Forced Inspiration.

The notes furnished to the Academy by M. Blatin, were derived from observations on the treatment of cholera at Bazancourt, in 1832. Under the plan of treatment which he tried, there were only 44 deaths out of 225 cases; while in 22 neighbouring districts there were 196 deaths in 461 cases.

In the greater number of cases, the internal treatment consisted simply in the *administration of cold water in large doses.* The intense thirst which accompanies cholera, and the strong desire for cold liquids manifested by those who are labouring under the disease, first induced the author to resort to this mode of treatment. He not only allowed his patients to drink as much as they wished, but compelled them to swallow quantities which would appear enormous, did we not know that a very large quantity of liquid was constantly expelled by vomiting and purging. Some of M. Blatin's patients drank five or six pailfuls in a day! This treatment tended to restore warmth, and to modify the serous discharges, so that he always felt justified in making a favourable prognosis when the patient drank freely at the commencement of the attack. When one dose was rejected, another was administered in its turn. If the vomiting ceased, it was brought on again by titillation of the fauces, or by the exhibition of a still larger quantity of cold water. The water thus rejected was whitish in appearance, and contained albuminous matter. The thirst was allayed by the first few doses, but remained commonly sufficiently strong to induce the patients to drink water at intervals for twenty-four hours, or until reaction had made its appearance. The dose was then diminished, and if the coldness of the water became unpleasant, it was given slightly warmed and flavoured. When the evacuations were very copious, about an ounce of albumen was added to every pint of water: under other circumstances, beef-tea without fat was given.

The addition of from two to five drachms of the acetate of ammonia to each pint of water appeared to favour the return of circulation, and the production of diaphoresis, when cold water alone failed to bring about reaction.

Unfortunately, some of the patients did not manifest any desire for liquids. What was administered appeared to lie like a weight at the stomach; and this organ became distended without contracting upon its contents. This happened in 36 out of 225 cases. Ipecacuanha, in doses gradually increased, sometimes restored thirst, and produced good effects. Out of the 44 fatal cases, it is worthy of remark that in 33 the patients took liquids either sparingly or not at all. M. Blatin thinks it probable that these patients may have suffered under a peculiar form of the disease, perhaps typhoidal in its character. Among those who drank freely, whether in the first or second stage, it was observed that after some hours there were longer intervals between the fits of vomiting, and they rejected less liquid than they had swallowed. The matter vomited was less turbid, and less opaline: the countenance improved; the trunk became warm; and warmth gradually appeared in the extremities. The purging also subsided as to frequency and the quantity discharged. Liquids were then more sparingly given, and broth, tea, or milk, according to the wish of the patient, was substituted for water.

Forced inspiration.—M. Blatin compelled many of his patients to make strong inspiratory efforts, allowing them to rest at intervals. He had some difficulty in carrying out this plan of treatment, which he states to have been most rapid and efficacious in restoring warmth; and he was compelled to use cold affusion occasionally to promote the inspiratory act. Out of 181 cases of recovery, more than one-third were restored by the free use of cold liquids and forced inspiration, aided by dry friction, which was employed in every case.

The most successful method of relieving the cramps was found to be a kind of kneading by pressure, so as to force the blood from the extremities into the larger vessels, followed by slight frictions on the extremities in an opposite direction, *i. e.* from above downwards.

As to bleeding, M. Blatin did not find it injurious at the commencement of the case. In the stage of reaction it was not necessary, as this had not been excited by a highly stimulating plan of treatment, but slowly and equably. In three cases of venesection he observed that some bubbles of gas escaped with the first drops of blood from the opening made in the vein, and in these instances the disease proved speedily fatal. M. Blatin is inclined to think, that in cases of cholera, the blood and fluids undergo decomposition during life; and to this he ascribes the production of bubbles of gas.

⁂ The employment of cold water in large quantities was found most successful by Mr. J. G. French, Surgeon of St. James's parish, on the last invasion of cholera. He has strongly advocated this plan of treatment in various articles contributed to our pages. As this mode of treatment does not appear to have received the attention which it deserves, we shall take an early opportunity of giving a retrospective notice of the pamphlets on Cholera published by Mr. French and Dr. White in 1832.

ACADEMY OF SCIENCES.

Sitting of January 22.

Quantitative Analysis of Phosphoric Acid.

M. Cotterau addressed a communication on a process for ascertaining the quantity of phosphoric acid in any given mixture. This process is based—1st, on the property possessed by solutions of potash and soda, of transforming the insoluble phosphates into soluble phosphates of potash and soda, at a boiling temperature; 2nd, on the property possessed by nitrate of silver of precipitating the phosphates of soda and potash, and forming a phosphate of silver, the composition of which is represented by Ag^2O^2,PO^5, and which deposits more and more readily by allowing the supernatant liquor to clear in proportion as the precipitation becomes more complete, the precise point of further action being thus more readily ascertained.

No medical papers of interest were presented at this sitting.

Madame Courtois, the widow of the discoverer of iodine, is in much distress, and has applied to the Societé d'Encouragement for pecuniary assistance. Our correspondent, who is a member of the Societé, will have much pleasure in applying to her relief any contributions which our readers may feel disposed to forward to his care.

Correspondence.

CASE OF STRANGULATED FEMORAL HERNIA. MR. GAY'S OPERATION.

Mrs. Buckley, of Wrigley Mill, æt. 56, on Thursday, the 28th of December last, whilst lifting some coals, felt something snap in the left groin. On examining it, she found a small hard lump, not then very painful. It gradually became more painful and tender, and she says gradually increased in size. On Thursday her bowels were moved, and again on Sunday slightly. She vomited the whole day on Sunday.

I was called on Sunday at 6 P.M.; she complained of great tenderness on the whole of the abdomen; her pulse small and wiry; countenance most anxious and pinched. I tried the taxis about a quarter of an hour, but from the tenderness I was obliged to desist. I then proposed the operation, to which she in a short time consented. I proceeded home to prepare, and returned as soon as possible. With the assistance of my friend Dr. W. Garstang, having had the loan of Mr. Gay's Book on Femoral Hernia, I determined to try that operation, but from not having a bistourie caché, I was obliged to modify it so as to use a straight director. I commenced by making an incision obliquely downwards and inwards on the neck of the tumor, about one inch long; dissected carefully down, and soon came to the neck of the sac. Having divided the cribriform fascia on the director, I then passed the director on the inner side of the sac, through the stricture, and divided it inwards: this at once relieved the intestine. I examined the sac, and it appeared so dark coloured that I made a small opening into it to examine the state of the intestine: it was of a dark chocolate colour. I returned it at once, closed the wound with suture and plaster, over which I placed wet lint, gave her an opiate, and left her, to use her own words, "quite comfortable" at 8 o'clock.

Monday, Jan. 1.—She complains of some pain in the belly: ordered fomentations and a saline. Tuesday evening gave her a dose of Ol. Ric.: she has gradually progressed, and sat up on Sunday last. She is now convalescent.

I consider Mr. Gay has added much to the relief of the operation for hernia, rendering it more simple and less dangerous; and had I had the guarded bistoury, I should have explicitly followed his directions.

H. H. BROUGHTON.

Doburg, near Manchester,
Tuesday, Jan. 9, 1849.

THE EPIDEMIC DYSENTERY AT PENZANCE.—MR. G. B. CHILDS AND MR. MOYLE. THE RIGHT TO PUBLISH MEDICAL NOTES AND OBSERVATIONS.

IN reference to this subject we have to observe, that Mr. Moyle's paper on Epidemic Dysentery, dated the 5th, reached us on the 7th December. On the 13th, we received from him a letter dated Dec. 11th, from which we make the subjoined extract.—

"The day *after* my paper had been sent off to you (*i. e.* Dec. 6th), there was a letter from Mr. Childs, thanking my son and myself for the communication, stating that he intended shortly to publish something on this subject. He was written to by return of post, and told that I had drawn up a paper which had already been sent to London."

"Notwithstanding this communication, in another letter received last night (*i. e.* Dec. 10th), he says: 'he had forwarded his paper to the Medical Times, and hoped it would not interfere with any arrangement I may have made.' I confess I feel very much annoyed at this*."

In a second letter, dated Jan. 23rd, Mr. Moyle states:—

"Of one thing I am quite certain, that until *after* I had sent off my paper on 'Epidemic Dysentery' to the Medical Gazette, I never heard of Mr. G. Childs' intention of publishing on this subject: I wrote him to this effect on *the very instant* of his communication announcing it, and regretted that he had not made me acquainted with it earlier."

In a third letter, dated 25th January, Mr. M. says:—"Of course he (Mr. M.) felt annoyed on first hearing that Mr. Childs was about to publish in the Medical Times, when he (Mr. M.) had sent his paper to the Medical Gazette, but he (Mr. M.) had no opportunity of knowing what Mr. Childs' paper was, and he could not in direct terms ask him *not* to publish."

It appears from Mr. Childs' own admission, and the statement of the Editor of the Medical Times (Jan. 6th), that Mr. C.'s paper, containing the notes of Mr. Moyle, was sent to the Medical Times without giving Mr. Moyle sufficient time to answer the letter announcing the intention to publish; and further, that when Mr. Moyle's letter did arrive, implying that it was against his wish that Mr. Childs should publish, Mr. Childs made nevertheless no attempt to withdraw his paper from the Medical Times.

Mr. Childs appears to have considered that Mr. Moyle was aware of his intention to publish the notes in question; but no part of the correspondence which we have seen justifies this inference: and the extracts above given from Mr. Moyle's letters are decidedly adverse to it. We find, it is true, that Mr. Childs informed Mr. Moyle that he "intended shortly to publish something on this subject;" but it is clear that so vague and indefinite an assertion could not be understood to mean *the notes supplied by Mr. Moyle*, otherwise a distinct prohibition to publish them would doubtless have been sent.

Such, then, are the facts of the case, and our readers will now be enabled to draw their own conclusions respecting the justice of the remarks which we have made. We do not attribute to Mr. C. any improper motive or intention in the transaction; but in thus dealing with professional correspondence, he has, we think, shown a great want of discretion, and we shall be glad to find that the remarks we have been reluctantly compelled to make upon his conduct, will operate as a warning in time to come to himself and other members of the profession.

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* It will be observed from the first extract that Mr. C. did not tell Mr. M. that he was about to publish the *notes* supplied to him, but something on the subject.

Medical Intelligence.

THE CHOLERA AT BELFAST.

Belfast, January 26.—No change, either for better or worse, has taken place in the character of the epidemic within the last few days; but we are happy to find that it is not, at all events, increasing. Our last report stated that there were 23 cases remaining under treatment on Monday. On Tuesday there were—new cases, 5; deaths, 3; recoveries, none. On Wednesday, new cases, 4; deaths, 2; recoveries, none; and yesterday, up to 3 o'clock P.M.,—new cases, 4; 1 death, and 2 recoveries. Total cases in Belfast Union, 160; deaths, 76; recoveries, 56; remaining under treatment, 28.

THE CHOLERA AT MONAGHAN.

Monaghan, January 27. — This awful scourge has visited our town. Two cases have already occurred, one of which terminated fatally after an illness of 17 hours; the other (a prisoner in the county gaol) has recovered. The fatal case was that of a tailor, named Anderson, who was attacked with the premonitory symptoms on Thursday morning at 7 o'clock; and, although he had the advantage of the best medical attendance from 9 o'clock, he died this morning (Friday) at half-past 12 o'clock. Dr. J. S. M'Dowell, medical attendant of the county prison, has given orders to have all communications between the gaol and the town suspended for the present.

CHARLTON-UPON-MEDLOCK DISPENSARY, MANCHESTER.

On Thursday, Jan. 25th, Mr. Farquhar Milne was unanimously elected one of the surgeons of this institution.

MEDICAL FEES IN THE ISLAND OF SARDINIA.

The fees of physicians and surgeons are fixed by a tariff of the 28th November, 1841. The price of a simple visit is 9d., increasing according to the time of day or night, distance, and length of visit, to 8s. In surgery, the fees vary according to the degree of the surgeon, as well as the time, distance, and operation, from 6d. to 8s.; and in the Bassa Chirurgia degree (the phlebotomists and dentists), the extent of whose occupations are defined by law, petty distinctions in the fees are actually made between bleeding in the arm, hand, or foot,—the prices being 2¼d., 3d., and 4½d. respectively; and it also costs 2¼d. to have a tooth extracted, and 4½d. to have a root or fang of it removed, according to the Imperial laws of the king of Sardinia!—*Tyndale's Sardinia.*

It is right to state, on the other hand, that the medical practitioners of the island are not blessed with an income tax, and that provisions are very cheap. Thus the author tells us that the price of a lamb is only 1s. 3½d. in English money; and other articles of food are to be obtained at an equally low rate.

COLLIERY EXPLOSIONS—SCIENTIFIC EVIDENCE AT CORONERS' INQUESTS—NEGLECT OF THE USE OF THE SAFETY LAMP.

At an inquest recently held at Worsbrough, on the bodies of a large number of men killed by a colliery explosion, Mr. Maddison, a coal agent, when asked by the coroner to what cause he attributed the explosion, made the following statement:—"I should say that the primary cause was the prevalent high winds; for I find in this district, that the thick bed coal generates a more highly carburetted hydrogen then in other mines in the north which I am acquainted with. The carbon being much heavier than hydrogen, I have no doubt that the carbon is, in a measure, separated from the hydrogen, thereby causing the carbon to be more in the current of the air than the hydrogen. So soon as the carbon leaves, the hydrogen will lodge in the old breaks of the superincumbent strata."! Another witness was then called, who stated that, in his opinion, the high winds might have had something to do with it, but he considered that it had arisen principally from *sulphur* lying in the works! We need hardly say that the carbon, sulphur, and high winds, had nothing to do with the accident. If men *will* work with naked candles in the shafts of mines known to be subject to fire-damp, the mere working of the coal may lead to a sudden evolution of a large quantity of light carburretted hydrogen, and thus cause an accident. A sudden fall of the barometer may also aid the escape of gas. A shaft or gallery may be safe one hour and explosive the next. There can be no security where the Davy lamp is not constantly employed; but we suppose that the expense and trouble attending the use of the lamp, and the proportionally small quantity of light given by it, are the real obstacles to its universal employment. Until the use of naked candles in coal mines be prohibited by law, under a heavy penalty, these instances of the wholesale destruction of life must frequently occur.

OBITUARY.

On the 23d inst., at Hastings, aged 46, Henry Colebourne, Esq., M.D., of Stockwell-villas, Clapham.

On the 19th inst., at Dorking, aged 82, Isaac Chaldecott, Esq., 59 years surgeon to the garrison of Portsmouth.

At Aberdeen, on the 24th inst,, of typhus fever, William Mackinnon, M.D., F.R.C.P. Edinburgh, in the 34th year of his age.

On the 19th of November last, on his passage from the Mauritius, John Stewart, Esq., staff-surgeon, only son of the late Rev. Dr. Stewart, of Kirkowan Manse, Wigtonshire.

Selections from Journals.

CONCLUSIONS RESPECTING THE MODE OF THE PROPAGATION OF CHOLERA IN RUSSIA, 1847-48.

Dr. Frettenbacher, of Moscow, in an elaborate statistical report of the progress and ravages of cholera throughout the Russian Empire, during the last two years, gives the following general conclusions as the result of his observations on the subject of its propagation:—

1. Intermittent fevers had prevailed throughout the whole extent of the Empire, previously to the appearance of the cholera. In 1846 they had assumed in many places an epidemic character. In 1847, when the cholera appeared these fevers ceased, and they reappeared as the cholera declined.

2. The cholera was preceded, almost invariably, by disorders of the digestive organs and intestinal canal. These derangements increased with the appearance of cholera, and decreased in severity as it disappeared. They prevailed throughout the whole extent of Russia in Europe, even where cholera was not present.

3. The cholera followed the course of large rivers and the chief lines of human intercourse. Prevailing winds had no influence on its progress.

4. When the cholera appeared in places out of its principal route, it was generally found to have manifested itself shortly after the arrival of persons from districts where the disease was prevailing.

5. In localities where the cholera was thus conveyed by individuals, it did not always spread as an epidemic, but those only who came in contact with the affected had the disease, and if it did spread epidemically under these circumstances, its progress was very slow.

6. In many places the cholera appeared in an epidemic form, without any communication with infected districts, under the influence of general causes, of which we have as yet no satisfactory explanation.

7. The cholera propagated itself especially in low situations, in unhealthy and confined dwellings, where the inhabitants were previously debilitated by disease, intemperance, and other depressing causes.

8. Some localities which, from accidental circumstances, were carefully isolated, such as large establishments, and even entire villages, completely escaped the visitation.

The preceding facts prove that this disease, originally epidemic, may become energetically contagious; or, in other words, communicable from man to man.—*Gazette Médicale*, 13 Jan., 1849. X

ON THE EMPLOYMENT OF CANNABIS INDICA IN CHOLERA.

Dr. Willemin, who has witnessed the ravages of this disease in Cairo, where he himself suffered from an attack, states that he has found the cannabis indica to be a very efficacious remedy. He took, in his own case, thirty drops of the tincture, when in a state of collapse, and immediately experienced a vivid sense of heat in the head: reaction took place; he became insensible; and had symptoms of cerebral congestion during five days, after which period he began to recover. His convalescence was retarded for sixteen days by typhoid symptoms.

Dr. Willemin administered this remedy in ten other cases, in doses of from ten to fifteen drops. It gave rise to symptoms of intoxication, followed by salutary reaction.

It appears to act by exciting the nervous centres, whereby the restoration of the circulation is favoured.—*Bulletin de Thérapeutique*, Oct. 1848. X

ON INFLUENZA AND OZONE. BY DR. SPENGLER, OF ELTVILLE.*

Dr. Spengler remarks, on the incomplete state of our knowledge of the etiology of epidemic diseases, that the present crude theories of their dependence upon certain indefinite degrees of heat or cold in the weather will no longer be admitted; but that, by following up the discovery of ozone by Schönbein, we shall, having a tangible point whence to start, arrive at the clearness of truth, instead of the darkness which has hitherto hung over the subject.

He states, that in the village of Roggendorf, in Mecklenburgh, towards the close of 1846, slight catarrhal affections became prevalent,—that but slight trace of ozone was then to be detected in the air. With the opening of the following year, however, these catarrhal affections assumed the severest forms of tracheal and bronchial disease, and hooping-cough became common, both among children and adults; then reagents detected a great increase of ozone in the atmosphere, and, at the same time, influenza spread over the district. On the 9th January, the *ozonometer* shewed a still further increase in the proportion of ozone present in the air. On the same day two persons died of influenza, and gradually the influenza spread more extensively, until, on the 21st, scarcely an individual had escaped. Thus there seemed a decided connection between the presence of ozone in the air and the spread of the epidemic.

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* In Henle's Zeitschrift, vol. vii. Part I.

Ozone is formed in the air by the decomposition of its water through disturbances of its electrical equilibrium: hence the peculiar pungent sulphurous and phosphoric odour. The nature and composition remains as yet uncertain. Sulphuric, probably also telluric and selenic acids, and phosphoric acid, destroy it. A very small proportion of the vapours of ether or alcohol, or of olefiant gas, will also prevent its development.

Its best test is iodide of potassium, which will detect its presence in infinitely small quantities in the air. A piece of paper moistened with a mixture of starch and solution of iodide of potassium forms an *ozonometer* far exceeding in delicacy the most accurate galvanometer or the most sensitive nose. The smallest quantity of free ozone (even only in the proportion of a hundred-thousandth), when neither galvanometer nor eudiometer shew any change in the air, will be rendered manifest by the discolouration produced by the free iodine.

At the beginning of the epidemic we have noticed there was but slight discoloration: it gradually became darker, till at last the ozonometer exhibited a blackish-brown colour.

As the presence of ozone in the air is due to its electrical decomposition, it is necessarily influenced by its electrical tension.

If the prevalence of influenza and epidemic catarrh be owing to ozone, the vapours of sulphur, or sulphurous gases, must be protective against it. This is confirmed by, while it explains the immunity of, those engaged in or living near sulphur-works.

Dr. Spengler has been induced to publish his observations with the hope of inducing others to make further investigations into the existence and nature of ozone.

ON THE INSPECTION OF THE DEAD FOR JUDICIAL PURPOSES. BY DR. CASPER.

THE forms and requirements of penal justice present some obstacles to forming a medical opinion in some cases, where the cause of death has to be separated from previously existing disease, the effects of treatment, meteorological influence, &c. &c. When formed, this opinion may be open to numerous objections on the part of the prosecution or defence.

1. First, in the present series, we place a case, not on account of any difficulty in arriving at an opinion thereon, but on account of the unheard-of enormity of its turpitude, and which, though perpetrat woman, is seldom equalled in the in malignity, and innate baseness of disposition which it manifests. The very extent of the injuries inflicted on the victim facilitated the formation of an opinion.

About mid-day, of Oct. 23, 18—, unusual and alarming sounds were heard proceeding from R.'s house; they were the loud angry tones of an infuriated woman, mingled with the screams and groans of a child. On forcibly entering, the neighbours found only the proprietress of the house, with her daughter, a girl about ten years of age, who had just returned from school, and who now seemed in a lifeless condition, her face bloody, her hair disordered; her mother declared (and maintained the assertion to the end of her trial) that she had merely given the child twice a box on the ear, and that, outside of her straw hat; that the child had persisted in throwing herself on the ground, and with the utmost indifference denied that she had inflicted any other punishment. On examination of the child's body, besides numerous minor injuries, there were found forty-six considerable bruises and excoriations on the head, trunk, and extremities; the eyes and lips were swollen and ecchymosed. The brain was congested. In the left ventricle was an effusion of about three drachms of blood, and at the base of the brain a second effusion, to the extent of two ounces, of grumous blood. The cerebellum and the sinues were also congested.

In the thorax, it was observed that the heart and lungs contained unusually little blood; the bronchi contained frothy sanguineous mucus. Some surprise was excited by finding in the abdominal cavity, at least four pounds of dark fluid blood, which had escaped from a rent in the liver, three inches in length, passing through its entire substance, between the right and left lobes.

That death had been caused by the hæmorrhage, and this by the external violence, admitted of no doubt, since, without some such cause in operation, a healthy liver as this girl's was, would not have been thus rent. Herein is also afforded another proof of the correctness of the opinion advanced, of the frequency of such accidents. The examination of the body only could not have determined that the box on the ear, without the concurrence of the rent in the liver, was sufficient to cause death: nor could it have occurred from purely internal causes, the child having just before entirely good health, returned from a walk; it was attempted to be attributed to the breaking of the child's ear-ring, which she had worn on that day.

When the case came before the judge, the stringency of the forms of proof required enabled her to escape with a sentence of twenty years' imprisonment in the house of correction, instead of death, although no doubt could exist that she had caused the child's death.

2. Very different was the opinion in another case, in which a girl, twelve years old, was supposed to have come by her death through chastisement received from her father. Injuries of a very trifling nature only were discoverable on the back and nates of the deceased; but the liver was throughout hypertrophied, hard, and its substance in every part was the seat of cirrhosis, to which organic disease, and certainly to no immediate effects of violence, the death of the girl was to be attributed.

3. H. and R. got into a violent quarrel with one another while drinking in a gin-shop. A little while after, they walked together a quarter of a mile towards Moabit, where R. should have gone to his employment. According to his subsequent statement, he being rather drunk, fell down, and was violently kicked in the abdomen by H., who, however, denied this statement. Shortly after, R.'s master saw him, but noticed nothing particular on him, except that he had drunk rather too much. Immediately after, R. complained of severe pain in the abdomen; he went and passed the night in an adjoining hay-loft, to which he ascended by a ladder six or eight steps high, without assistance, and thence, also, he descended on the *following* morning. The pain continuing, he sought relief at the hospital, where he was admitted about noon.

An extensive bruise was found on the integuments of the abdomen, with corresponding pain in the adjacent internal organs, and extreme restlessness of the patient. Towards evening the symptoms became aggravated, and later still, vomiting supervened: the pungency of the pain became so intense, that rupture of one or other of the abdominal viscera was suspected. Death took place forty-eight hours after the infliction of the alleged violence.

On examining the body of this man (who was about fifty years of age), the recent marks of leech bites were found on the abdominal parietes. The peritoneum throughout was intensely inflamed, thickened, and covered with lymph; in its cavity were about twelve ounces of pus: the omentum, stomach, and intestines, were also inflamed in parts, and adherent to the posterior walls by recent exudation of lymph. Six ounces of fluid blood were found effused in the left pleural sac; the lower lobe of the left lung was inflamed, as was also the right lung, which adhered to the costal pleura.

In this, as in similar cases, it was extremely difficult to form an opinion as to the cause of death: it may therefore be well to consider this part of the case somewhat in detail. That the kick received on the abdomen was the probable cause of the severe and rapidly fatal peritonitis, will appear from the following considerations:—The common effects of kicks, or similar injuries, are at least bruises, and rupture of internal organs, and the more certainly will these ensue in proportion to the violence used. According to the evidence, it would seem that being in the recumbent position, the blow must have come from above. In general, violence of this kind produces effusion of blood from the vessels, causing sugillations externally, and if the blow be severe enough, rapid and fatal inflammation of the adjacent internal parts. But here, as before said, there were now no traces of external injury, but the marks of leech-bites. It must also be remembered that a quarter of an hour after the supposed injury he could walk without assistance, and in that short time was able to climb up the six or eight steps of the ladder. While, therefore, the dissection failed to trace the peritonitis to external violence, it failed also, on the other hand, to establish any other certain cause. But the previous sound state of health had not been established. Now it is well known that men of this class disregard their bodily feelings, and too often suffer the premonitory symptoms of serious disease to pass unheeded; and grounds were not wanting to attribute the fatal result in this case to some such previously existing disease. It is certain that his nervous system had become over stimulated by long-continued spirit drinking, and the additional state of excitement induced by the dispute. It is not improbable that, under such circumstances, an incipient unnoticed disease became developed by a trifling injury into the active inflammation which killed him, since the accused himself admitted that he had given him a push with his foot to aid him in rising. At this very time, and when the patient without help walked to, and ascended the hay-loft, he was in pain: in fact, an inflammation was then present, which, under the most favourable circumstances of care and skill, is by no means certainly curable; yet here both the disease and the unfavourable concomitant conditions remained unmitigated.

From all that has thus been advanced, it must be allowed that the inflammation *may* have been independent of the blow. It is to be regretted that the dissector could not affirm with certainty the relation of the bruise to its development; all traces thereof had disappeared in the 24 hours during which he was in the hospital; but then it may be observed, that a blow of this kind may injure internal organs without producing much external sugillation. As to the changes which had occurred in the thoracic organs, they are partly attributable to the fall, and partly to extension of the subsequent inflammation.

Hence an opinion was given, that not only was it possible, but very probable, that the fatal inflammation was the consequence of the external violence. But at the same time it was very desirable that greater certainty could have been attained, before the accused was declared to have caused the death of this man.—*Casper's Wochenschrift.*

BOOKS & PERIODICALS RECEIVED

DURING THE WEEK.

On the Dependence of Animal Motion on the Law of Gravity. By H. Wiglesworth, M.B. &c. Part I.

Résumé des Rapports sur la Clinique des Thermes de la Porrette et de Monte-Catini. Par R. Maunoir, D.M. Florence, 1848.

La Porrette et Monte-Catini. Par R. Maunoir, D.M. Florence, 1848.

On the Cerebral Affections of Children. By Valentine Duke, M.D. 1849.

Eruptions of the Face, Head, and Hands; with the latest Improvements in Treatment, &c. By T. H. Burgess, M.D.

Essays on Infant Therapeutics. By J. B. Beck, M.D. New York.

La Presse Médicale. Nos. 1 to 5. Bruxelles, 1849.

Dr. R. B. Todd's Cyclopædia of Anatomy and Physiology. Part XXXIV.

Pathology of the Human Eye. By John Dalrymple, F.R.C.S. Fasc. I.

Il Progresso Giornale Italiano. No. 2. Firenze.

Dr. Alexander Knox on Cholera and its Treatment.

Pharmaceutical Journal. February, 1849.

Edinburgh Monthly Journal of the Medical Sciences. February, 1849.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 29·97
" " " Thermometer[a] ...... 45·8
Self-registering do.[b] .... Max. 60·8 Min. 26·

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 0·17.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 9·7° above the average of the month.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Jan. 27.

Births.		Deaths.		*Av. of* 5 *Wks.*	
Males....	814	Males....	573	Males....	592
Females..	762	Females..	635	Females..	577
	1576		1208		1169

Causes of Death.		*Av. of* 5 *Wks.*
All Causes	1208	1169
Specified Causes	1193	1164
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*..	329	221
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	54	54
3. Brain, Spinal Marrow, Nerves, and Senses	150	141
4. Heart and Bloodvessels	22	40
5. Lungs, and other Organs of Respiration	245	243
6. Stomach, Liver, and other Organs of Digestion	63	67
7. Diseases of the Kidneys, &c...	14	13
8. Childbirth, Diseases of the Uterus, &c.	13	9
9. Rheumatism, Diseases of the Bones, Joints, &c.	10	7
10. Skin	2	
11. Old Age	45	73
12. Sudden deaths	8	14
13. Violence, Privation, Cold, &c.	23	37

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	16	Convulsions	50
Measles	18	Bronchitis	104
Scarlatina	76	Pneumonia	95
Hooping-cough	42	Phthisis	125
Diarrhœa	17	Dis. of Lungs, &c.	7
Cholera	45	Teething	11
Typhus	56		
Dropsy	23	Dis. of Stomach, &c.	6
		" Liver, &c.	8
Hydrocephalus	35		
Apoplexy	17	Childbirth	5
Paralysis	40	Uterus	4

Remarks.—The total number of deaths was 39 above the weekly winter average. The deaths from bronchitis were 26 above the average.

NOTICES TO CORRESPONDENTS.

M.D.'s letter shall be published, but we must first have his name in confidence. The disposal of funds connected with charitable endowments, is open to much malversation.

Δελτα.—We have never heard of such an exception being made, but the Society act with liberality to students in this respect, and an application to the clerk will lead to the desired information.

The remarks on the treatment of the Cholera at Glasgow have been received.

Dr. Savage.—It is contrary to our rule to insert comments on papers that have appeared in other periodicals.

Received.—Dr. James Arnott.

THE GENERAL INDEX.

We have to announce to our Subscribers that a General Index to the *first* 40 *Volumes* of the London Medical Gazette will, it is calculated, form a large Volume of about 700 pages. The cost of the Index Volume, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. Wilson and Ogilvy, 57, Skinner Street, will receive the Names of Subscribers.

London Medical Gazette.

Lectures.

LECTURES ON PRETERNATURAL AND COMPLEX PARTURITION.

By Edward W. Murphy, A.M. M.D.
Professor of Midwifery, University College, London.

Lecture IX.

PUERPERAL CONVULSIONS.

Treatment of sthenic convulsions—depletion—tartar emetic—purgatives—Treatment during the fit—cold as a shock—The question of immediate delivery considered—Statistical results—Danger of turning. Asthenic convulsions—depletion contra-indicated—Stimulants—opium—purgatives—counter-irritation—Hysterical convulsions the least dangerous form—symptoms—treatment.

Gentlemen,—In the preceding lecture we pointed out to you three forms of puerperal convulsions,—the sthenic, asthenic, and hysterical convulsions: we inquired, also, into the causes, both remote and proximate, that induced the paroxysm in the two first varieties (to which your attention was confined), in order to determine more accurately the principles of treatment. If we have made the subject sufficiently intelligible, you will perceive that the same effect is the result of very opposite causes. An excess or a deficiency of blood in the uterus, impure or depraved blood circulating in the system, will predispose the constitution to an attack of convulsions at the time of labour. The exciting cause may be either irritation in the uterus, or any other of the organic viscera. It is obvious, therefore, that one and the same plan of treatment will not suit these different conditions: you cannot treat convulsions from hyperæmia, anæmia, and mental shock, precisely in the same manner: the treatment of convulsions cannot be carried out correctly without a clear view of the cause of the attack; no general principle of treatment can be applied indifferently to every variety of the disorder.

The treatment of that form most commonly met with shall be the first object of our attention; we shall then consider other less usual varieties. Hyperæmic convulsions are most frequently met with. In such cases you generally have well-marked premonitory symptoms—the bounding pulse, throbbing headache, singing in the ears, &c. &c. give you sufficient notice of the excitement in the circulation, and the impending danger: if, with these symptoms, the pains are short, and the action of the uterus laboured, you may be certain of convulsions unless prompt relief be afforded. A large and decided depletion is clearly indicated: thirty or forty ounces of blood may be taken with advantage; every extraneous source of irritation should be removed: if improper food or drink be taken, or if the bowels are constipated, emetics and active cathartics are necessary. The salutary effect of depletion may be maintained by placing the patient under the influence of tartarized antimony; the force of the circulation is reduced by the nausea excited, and the labour proceeds more favourably to its conclusion. It is of great importance to notice quickly, and to avert with promptitude, these premonitory symptoms, because I am persuaded that decision at this stage of the threatened attack may prevent it altogether, while hesitation and feebleness will only more certainly determine the paroxysm.

If, however, convulsions seize the patient unexpectedly, the first object of your attention is to save her from being injured during the fit: a cork should be placed between the teeth in order to prevent the tongue being cut. In the violent succussion of the fit, the patient may be jerked from the bed; she often throws herself about the bed with great violence; you must prevent her being hurt, by removing every thing out of her way, but not, recollect, by holding her down with all your strength: this is a very common mistake. I have seen the bed surrounded by friends, some holding the body, others the legs and the arms, as if they could thus stop the convulsion. The only effect of their exertions is to exhaust the patient: she complains of great fatigue and soreness when she recovers herself: nothing more should be done than to prevent her falling out of the bed; the less the convulsive paroxysm is restrained the better; you may, however, diminish its severity, or possibly arrest it, by exciting a nervous shock—cold affusion is sometimes found very serviceable. Denman used to recommend that a large basin of cold water be placed within reach, and when the fit was commencing to dash it against the face with a whisk: I have adopted this practice frequently, and with complete success: the paroxysm was sometimes stopped altogether, but if it took place it was much less violent than before.

The general treatment of the case can only be undertaken when the fit is subsiding, just as the stage of coma is approaching. Depletion, to the extent we have stated, should be at once carried into effect; it would be advisable also to administer an active cathartic enema: I think a terebinthinate enema is the most efficient for this purpose. The head, and especially the back of the neck, should be covered with cloths rung out of iced water; but, at the same time, it is very essential that the temperature of the lower extremities be maintained, the circula-

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tion being often just as feeble there as it is strong about the head and neck. If the return of the paroxysm be thus prevented, you may give the patient a full dose (gr. x.) of calomel, and in two or three hours the usual saline senna mixture, adding to it from half a grain to a grain of tartarized antimony. It will be well, also, to continue the use of tartar emetic, in half-grain doses, for some time afterwards: its influence in controling the action of the heart is very great, and if judiciously given will generally render a second depletion unnecessary: when it is administered for this purpose, it should be combined with tincture of opium, so as to prevent any undue irritation of the intestines.

The most important question, however, that we have to consider is, the delivery of the patient: the uterus is morbidly irritable, and the child is an irritant so long as it remains in its cavity. Should it not be at once removed? The apparent conclusiveness of this argument has, in most cases, led to immediate delivery, without much hesitation as to the operation that may be necessary for the purpose: the child is extracted either by the forceps, the crotchet, or by turning, according to circumstances. I very much doubt the propriety of this practice as a general rule. I do not mean to object to the introduction of the forceps when the head is within its reach, and there is sufficient room for the application of the instrument; neither, if the head be impacted, and the child's death ascertained, need we feel any difficulty about perforation: but to destroy a living child, or to pass the hand into the cavity of the uterus for the purpose of turning it, on the principle that it must be at once removed, appears to me very objectionable, because I think it unnecessary. In many of these cases the child is delivered by the natural efforts, generally dead, but sometimes living. Unless, therefore, you were satisfied of its death, it would be unjustifiable to destroy it by the perforator. If proper constitutional treatment be adopted, the hazard to the patient is not increased by any delay that caution may require; while, on the other hand, by precipitate interference positive danger may be incurred. This seems to me to be especially the case when the child is turned, because the irritation from the presence of the child in the uterus is as nothing when compared with that caused by the hand forced into the cavity of the womb for this purpose: a mere vaginal examination often induces a paroxysm of convulsions; you can therefore appreciate the danger of the more violent operation of turning the child under such circumstances. You will find, in the history of such cases, that the fits continued afterwards, and a fatal result was too often the consequence. Statistical results afford a very strong confirmation of this objection.

AUTHORITIES.	Total Cases.	Pregnancy.		Period of the attack.			Position.		Mode of Delivery.							
		First.	Subsequent.	Before Labour.	During Labour.	After Labour.	Vertex.	Preternatural.	Natural	D*	Forceps	D*	Crotchet	D*	Turning.	D*
Smellie	10	not stated	not stated	5	5	—	10	—	3	1	3	1	—	—	4	1
Merriman	36	28	8	not stated	not stated	3	not stated	not stated	13	4	7	—	8	1	3	1
Lee	53	25	9	14	23	10	43	—	32	9	7	4	12	2	2	1
J. Ramsbotham	25	14	3	11	11	3	20	2	15	4	2	—	5	1	3	3
Lever	14	8	6	4	8	2	12	2	8	—	4	1	—	—	2	1
Josh. Clarke	19	16	3	—	17	2	19	—	8	3	3	2	6	—	—	—
Collins	30	29	1	10	18	2	29	1	15	—	6	—	8	5	—	—
Hardy and M'Clintock . . .	13	10	3	2	8	3	13	—	6	1	3	1	4	1	—	—
	200	130	33	46	90	25	146	5	100	22	35	9	43	10	14	7

* D signifies the deaths of mothers.

You will perceive from this table, taken from all available sources of British practice, that in 200 cases of convulsions exactly one half were delivered by the natural efforts—the number of deaths being twenty-two, or about one in four and a half. Fourteen were delivered by turning, and half of them died. The number (fourteen) includes only five preternatural positions; we may, therefore, infer that the remainder were vertex presentations, delivered by turning to prevent a fatal result; and yet, where no interference was attempted, the mortality, so far from being increased, was less than one-half of what took place when the hand was passed into the uterus to turn the child. If you take a comparative view of the different modes of delivery, and their results, you must arrive at the same conclusion, and feel satisfied that turning is more dangerous than any other.

Table of Proportionate Mortality.

DELIVERY.	Total Cases.	Deaths.	Proportion, one in
Natural . .	100	22	4½ nearly
Forceps . .	35	9	4 Do.
Crotchet . .	43	10	4 Do.
Turning . .	14	7	2

This abstract from the general table will, at a glance, show the comparative mortality. Thus, whether the patient be delivered by the natural efforts, by the forceps, or by the crotchet, the mortality is nearly the same,—if there be any difference, it is in favour of natural deliveries; but where the operation of turning the child was had recourse to, the mortality was just doubled. In confirmation of this objection, as well as to demonstrate the safety of a practice where this operation (turning) was, I might say, excluded, I shall place before you the results of Dr. Collins' practice in the Dublin Lying-in Hospital, as well as that of Dr. Johnson, in the same establishment, as reported by Drs. Hardy and M'Clintock. The cases of convulsions that generally occurred in that hospital were precisely of the class that we are now describing. Some of them have fallen under my own notice, and I think they bear ample testimony to the success of the treatment.

Dr. Collins gives 30 cases of convulsions occurring almost invariably "in strong plethoric young women, with their first children, more especially in such as are of a coarse make, with short thick necks."* Of these 30 cases, 15, or one-half, were delivered by the natural efforts, and no death occurred; 6 by the forceps with equal success; and in 8 the children were removed by the crotchet.

Table of Cases of Convulsions, from the Reports of Drs. Collins, Hardy, and M'Clintock.

AUTHORITY.	Total Cases.	Period of attack.		Pregnancy.		Boys.		Girls.		Mode of Delivery.						Total Deaths.	Observations.
		Before and during labour.	After labour.	1st.	Subsequent.	L*	D*	L.	D.	Nat.	D.	Forceps	D.	Crotchet	D.		
Collins	30	28	2	29	1	8	12	5	6	15	—	6	—	8	5	5	3 had ruptured uterus.
Hardy and M'Clintock . .	13	10	3	10	3	3	3	4	3	6	1	3	1	4	1	3	
Total results	43	38	5	39	4	11	15	9	9	21	1	9	1	12	6	8	

* Living. * Dead.

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* Collins's Observations, p. 199.

Of these patients, 5 died, but in three instances the uterus was ruptured; consequently only two deaths are fairly attributable to convulsions. The whole mortality in Dr. Collins's practice, five cases, would be in the proportion of 1 in 6; but if you exclude three cases of ruptured uterus, it would be one in 15. Drs. Hardy and M'Clintock report 13 cases, 6 delivered naturally, 3 by the forceps, 3 by the crotchet, with one death in each mode of delivery, in the proportion of about 1 in 4 of the whole number; but although this mortality seems much greater than the former, it must be recollected that in statistics the smaller the number of total cases from which a ratio is derived, the greater is the risk of error in the proportion that it indicates. The mortality in Drs. Hardy and M'Clintock's tables is not, however, greater than that in the general table under similar circumstances; and when the latter proportion is derived from 200 cases, while the former is only from 13, I think we may fairly presume that a larger number of cases in Dr. Johnson's practice would shew a less mortality. The conclusions that are derivable from these facts are—1st. That in those cases where the delivery was unaided (about half the whole number), the mortality was least; 2d. That where the crotchet or forceps were used, the deaths were only slightly increased; 3d. That the highest mortality was in those cases where the child was turned.

I have directed your attention to the practice of the Dublin Lying-in Hospital, because of the general uniformity of the class of cases that were liable to convulsions. They generally occurred with women pregnant for the first time: there were 39 first, and only 4 subsequent pregnancies: the proportion of boys was greater than girls—26 to 18; and the women were of the character described by Dr. Collins—strong, plethoric young women: you may therefore readily infer that the cause of the attack was uterine congestion, greatly increased by the violent struggle to force the large head of the male child through the too resisting passages. In other reports, convulsions were of a more mixed character: some brought on by uterine irritation; others by strong mental emotions: some were anæmic, and some had severe labour. Hence the proportion of those attacked in subsequent pregnancies is greater.

So far, therefore, as the delivery of a patient in hyperæmic convulsions is concerned, I should recommend you to trust to the action of the uterus (which is always increased) to effect the delivery, at the same time controling, by general treatment, the severity of the paroxysms. If the head descend within reach of the forceps, you may apply them if the paroxysms are continuing, but if they have subsided it is better not to do so, lest you might renew them. If the head be impacted, or if it be difficult to apply the forceps, and the child's death be ascertained (and this usually soon takes place), you may remove it by the crotchet, but I would caution you strongly against turning the child. In certain cases, as preternatural presentations, turning is unavoidable, but this rarely occurs. The more usual practice is to turn the child in vertex presentations, under the erroneous impression that if the child be not at once removed the danger will be greatly increased: believe me, there is much more danger in the operation itself.

In this summary of treatment we have confined your attention to one form of the attack, where there was an excess of blood in the uterus, the labour perhaps severe, the uterus rendered morbidly irritable, and convulsions the result. We shall now examine another variety, which may well be contrasted with that we have been considering.

Asthenic or anæmic convulsions will occasionally fall under your notice. Anæmic convulsions from loss of blood are the final and the fatal symptoms of extreme hemorrhage: with this we have nothing to do: but asthenic convulsions from a deficiency not only in the quantity but in the quality of the blood sometimes takes place, and when they present themselves they are always extremely dangerous. A very slight loss of blood occurring in a constitution previously debilitated by poverty and privations will induce the paroxysms, and sometimes they occur without any loss of blood. Dr. Lever relates a case that will afford an excellent example of this form of convulsion: "Eliza H., æt. 36, in labour with her fifth child. When seven months pregnant she had a discharge of blood about a week previous to her labour. She was much depressed in spirits, and complained of feeling weak; her pulse was feeble, 80. She had been living in a state of the most abject penury; for two or three months subsisting for days on a single meal of bread and tea. Her face and body were covered with cachectic sores." She had several fits of convulsions before expelling a small living female child. After the birth of the child she lay insensible, and could not be made to swallow either medicine or sustenance; the pulse remained exceedingly feeble, 72; the convulsions continued to recur, though less powerfully than before, and as depletion was contraindicated, abundant dashing of the face with cold water was the only remedy which circumstances permitted to make use of. A full dose of æther, liq. opii. sed., and ammonia, was with difficulty administered. The convulsions continued all night with scarcely any abatement, interrupted only by intervals of coma; pulse 72, weak; pupils contracted; conjunctiva clear; she passed her urine in bed. In consequence of the abject destitution of her home she was removed to Guy's Hospital, and placed under Dr. Ashwell's care in the obstetric ward. During her removal she had a convulsion, and reached the ward nearly lifeless....... She remained in this critical state for some days, but then gradually and slowly revived, and left the ward in a state of convalescence."*

I have quoted this case nearly at length, because it shows very clearly the character of this attack, and points out to you the proper treatment of such cases. You perceive that abject destitution will predispose to these fits: this woman would probably not have been saved, had she not had the advantages of Guy's Hospital. The medicinal stimulants, camphor, ammonia, &c., no doubt did much, but I suspect the culinary aids, the sago and wine, the improved nutriment, the care and attention she received, did much more for her. Hæmorrhage was the apparent cause that induced the convulsions here, but under similar circumstances they may arise without any loss of blood. Dr. Lever relates another case of asthenic convulsions, in which there is no mention made of hæmorrhage. I was once called to a case of this kind, in which the patient had been bled previously; she was living in an obscure apartment exposed to many privations; there was no difficulty in her labour, and she easily gave birth to a living child, a girl, but in the midst of her pains she was seized with convulsions, and from the first paroxysm never recovered from a state of coma; her pulse was rapid and feeble, and although stimulants and opium, with what nourishment she could take, were freely given to her, still they failed to restore her. She died in 48 hours after the first fit: no post-mortem examination was allowed. I could not at first satisfactorily explain these symptoms, and therefore made every inquiry respecting her. She was not only destitute, but had been very badly treated by her husband, who had deserted her; so that, in addition to impoverished diet, there was a certain amount of mental depression in operation to induce such an attack. Dr. R. Lee gives a case very like this (Case 15.) "Convulsions and insensibility during labour, pulse rapid and feeble, delivery completed by craniotomy, she was not bled, died comatose three days after delivery. Post-mortem examination: a table-spoonful of serum was found at the base of the brain, great vascularity around the tuber annulare.† Thus you may observe that not alone a deficiency in the quantity, but in the quality, of the blood will cause convulsions, especially when accompanied by its general attendant, mental depression. Unless these cases have the advantage of kind treatment and nourishing diet, as well as medical assistance, they are generally fatal. Dr. J. Ramsbotham, in his valuable "Observations in Midwifery" relates twenty-five cases of convulsions, ten of which were fatal, nearly one half, but these cases were seized with convulsions, sometimes during pregnancy, generally before labour, and some of them at least, if not the most of them, were of the class we are now describing. Many of these cases occurred among women in the lower walks of life, who had one or more children previously. Were they enduring the trials and vicissitudes of London life with this additional cause of depression, an increasing family? I put these as queries, because no such causes are stated, although their existence appears to me extremely probable. In such cases, convulsions occurred before labour began, sometimes during pregnancy, and in this respect differ from hyperæmic convulsions that are generally consequent upon labour.

I think it may be stated as a rule, that convulsions occurring during pregnancy, or before parturition, are more dangerous than those which accompany or follow labour. The former depend upon extraneous causes; the latter upon the uterus: the one may arise with women who have had many children; the other occurs almost invariably with the first child. In the latter, hyperæmia is the most prominent constitutional feature; in the former there is every evidence that the constitution is suffering from debilitating causes. Such is the conclusion that appears derivable from a comparison of those cases reported by the late Dr. Ramsbotham and by Dr. Collins. Both were taken from a very extensive but a very different field of practice. In Dr. Ramsbotham's cases, convulsions generally induced labour; in Dr. Collins's, labour produced the convulsion. The one had to treat young women pregnant for the first time, with strong constitutions, and of plethoric habits; the other was called to give his assistance in such examples as this—"A poor woman, in the neighbourhood of Shoreditch, pregnant of her fifteenth child, and about seven months advanced in that state."* In both instances the most judicious treatment was adopted: Dr. Collins generally saved his patient; but Dr. Ramsbotham had many fatal cases.

We have wished to contrast these two forms of convulsions, because they are as equally opposed in their treatment as in their characters. Depletion, tartar emetic, purgatives, and a general antiphlogistic treatment, are required in the convulsions of primiparæ. Stimulants, opium, good diet, warm purgatives, and counter-irritation, are more suitable for the convulsions of a broken-down constitution. *Opium*, as a remedy in convulsions, has met with good and ill success: it has been highly praised, and as strongly condemned. This apparent opposition in the experience of its effects may, I think, be reconciled. Opium may be given very improperly when it is attempted to control by its influence the paroxysms of hyperæmic convulsions. So long as the exciting cause of the fit is in active operation, a kind of struggle goes on between the excitant and the remedy, that generally ends in a great increase of severity in the convulsions; but when opium is given in the convulsions of debility, it acts as a stimulant to an exhausted nervous system, and arrests the fits. It is right to state that in such constitutions opium has sometimes been taken as an habitual stimulant.

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* Guy's Hospital Reports, vol. viii. p. 496.
† Lee's Lectures, p. 419.

* Ramsbotham's Observ. Pt. 11, p. 278, Case 162.

Dr. J. Reid mentions, in his excellent essay on Puerperal Insanity, this striking fact: "Amongst the lower classes of females who apply for entrance into parochial infirmaries at the expected period of accouchement, a large proportion of them are addicted to the daily use of ardent spirits; and, from some inquiries which I have instituted during the last three years, I have found *the habitual consumption of opium* amongst the same class prevails to a far greater extent than is generally supposed by the public. I have been surprised at discovering how universal the practice has become, and to what an extent in some cases this drug is taken with impunity, or rather without immediate bad effects."* It is far more probable that this practice prevails among those who are exposed to great mental depression and much privation, than an opposite class; and therefore, while in the latter it would be extremely injurious, in the former patient it might have the best effect.

Stimulants, such as camphor, ammonia, wine, brandy, &c., are useful on the same principle as opium: they restore the activity of the circulation, and with it a certain amount of nervous energy. When inanition is the most obvious cause of the debility, and of the convulsions consequent upon it, a nutritious diet cautiously administered is of more efficacy than medicines. The only remedies of the antiphlogistic class required in such cases are *purgatives*. The bowels are usually constipated, and it is possible this irritation may have been the immediate cause of the attack. It is always advisable, therefore, to procure a free evacuation from them before opium is administered. When these are necessary, the warm stimulant cathartics are the best, such as aloes, assafœtida, turpentine, &c.

Depletion is contra-indicated; generally it cannot be at all employed; but in some instances, nevertheless, it may be used with caution. You know, when convulsions take place, venous congestion is always the consequence: it is necessary to relieve this, which may sometimes be done by the sudden shock of cold to the surface. Dashing the face with cold water will sometimes cut short the convulsion and relieve the congestion; but this may not be sufficient, and therefore depletion is required. The safest method is to cup the back of the neck, to take six, eight, or ten ounces of blood, and to follow this by counter-irritation. A blister or mustard poultice may be applied over the part that was cupped. When blood is thus taken from a circulation already sufficiently feeble, great attention is necessary to support the strength of the patient, and to maintain the temperature of the surface. The lower extremities should be kept constantly wrapped in warm flannels or blankets.

Immediate delivery of the patient is not, I think, required, and may be more dangerous here than in sthenic convulsions. In both cases the operation renews the paroxysms which continue long after delivery; but in the asthenic form this alone may determine its fatal termination; while in sthenic convulsions there is still hope that the constitution will maintain itself until they gradually subside. Besides this, in the former variety there is less difficulty than in the latter in the expulsion of the child; consequently there is less reason for a precipitate interference.

Morbid irritation of any other of the organic viscera may cause puerperal convulsions, which are generally much more fatal than hyperæmic convulsions, because in such instances there are two centres of irritation in place of one: the organ that is directly affected, and the uterus that is indirectly excited,—the primary and secondary centres of excitation. Thus we find the paroxysms may seize the patient during pregnancy, and induce premature labour; or they may occur just before labour, and hurry it forward. In both cases the action of the uterus is the consequence, not the cause, of the attack. In this view, gestation and labour act only as predisposing, not exciting, causes. A patient who at any other time might escape the consequence of excess in eating and drinking, may be seized with convulsions when labour is approaching. A supper of oysters, that at a more favourable moment would only cause a sounder sleep, if labour be near, may induce convulsions that rapidly hasten to a fatal termination. A sudden fright, which would only cause syncope if pregnancy did not exist, excites paroxysms that cannot be controlled. In this manner, irritation of the brain, stomach, or intestines, when it excites a corresponding irritation of the uterus, gives rise to the most dangerous form of convulsion that we meet with.

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* Symptoms, &c. of Puerperal Insanity. By James Reid, M.D., p. 28.

The *treatment* of such cases must be directed to relieve the organ that is the primary centre of irritation. If it be the stomach, emetics which are prompt in their action, as mustard, sulphate of zinc, &c., are the most efficient. When the stomach is relieved, anodynes may be given with advantage. If the intestines are loaded, active purgatives, both by the mouth and rectum, are necessary. If the brain be excited in a plethoric patient, cupping the back of the neck, counter-irritation, cold to the head, calomel in full doses, purgatives, and tartarized antimony, may all be required; but if she be of a feeble constitution, camphor, ammonia, and opium, are more serviceable. The treatment of these latter cases may be conducted on the same principle as similar forms of puerperal insanity.

Hysterical Convulsions are altogether different from those we have been describing. We pointed out to you in a former lecture,* the characters of the hysteric temperament, when it produces tediousness in labour. Such patients are very excitable and intolerant of their sufferings: the progress of labour is frequently suspended by their nervous irritability, which the protraction increases, until at length their impatience, and the severity of their sufferings, throws them into a paroxysm of convulsions. When there is such morbid irritability of the nervous system, the pains of labour are more intense than in a perfectly healthy woman: it appears to me that hysterical females often suffer from neuralgic pains during their labour: their sufferings are consequently greatly increased, and these convulsions may be looked upon as the result of extreme nervous irritation, and consequently exhaustion of nervous power: hence we find that the action of the uterus, in place of being increased, is suspended by the paroxysms, thus affording a diagnostic sign to discriminate these fits from the former puerperal convulsions.

The *symptoms* that characterize the convulsion are the same or similar to what is observed in ordinary hysteric fits. The patient may complain of a sense of oppression at the præcordia, and feel the globus hystericus in her throat, but most commonly the intensity of her sufferings absorb her entire attention, until suddenly the convulsions seize her. She is generally loud in her expressions of agony, throwing herself violently about the bed, and when the pain is at its height, her torture at its climax, the body becomes at once rigid, as if in a tetanic spasm. I have seen a patient thrown into complete opisthotonos, the head and heels alone touching the bed. Irregular convulsive paroxysms succeed, presenting every variety of character. Sometimes the muscles of the abdomen and the lower extremities are spasmodically contracted, while the arms are thrown about, and the face is in convulsive action; or the whole body may be thrown into convulsions, and the patient roll about the bed in its paroxysms. Other cases approach the characters of the true puerperal convulsions: the patient being seized with a distinct and violent rigor, followed by a state resembling coma. I am quite convinced, however, that this apparent insensibility is not true coma: the loss of consciousness is, I might say, simulated; the patient hears everything that is said, and a little deception has sometimes a very salutary effect in arresting the paroxysms. I have known a patient become quite tranquil, when she overheard a consultation about an operation for her delivery. If the fits have ceased, a vaginal examination will certainly renew them, but in a very different manner from the true puerperal convulsion. In the latter case, the patient is quite unconscious of the examination, and makes no resistance to it; still a paroxysm follows the act; but, in the former, she expresses the strongest reluctance, and struggles violently against the examination, in the midst of which the convulsions take place. Respiration is hurried and irregular, but there is no hissing expiration, or spasm of the glottis.

Hysterical convulsions, like the disease to which they belong, simulate other convulsions, and, therefore, you may meet with cases so closely resembling those that are truly puerperal, that you will find it very difficult to distinguish the one from the other. A very embarrassing case of this kind once presented itself to me. When the paroxysm was approaching, the patient ground her teeth, smacked her lips, and foamed at the mouth: the features became distorted, and the whole body was thrown into a tetanic spasm. A violent rigor succeeded, so as to shake the bed, and a distortion of the features, very similar to sthenic convulsions, was observed. As the fit subsided, she fell into a dose, breathing loudly, almost stertorously: still she was not sound asleep, she was very easily disturbed, and, if any attempt were made to give her drink, or to make a vaginal examination, she at once became restless, tossed about the bed, and almost brought on a second paroxysm. When left alone, she awoke from this imperfect dose, looked round, at first unconsciously, but, as if suddenly recollecting herself, withdrew from observation, and hid her head in the bed-clothes. In this case there was no perfect loss of consciousness, which, taken in connection with that absence of the respiration peculiar to the true convulsion, was sufficient for the diagnosis.

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* Lectures on Natural and Difficult Parturition, p. 108.

Hysterical convulsions differ very much from true puerperal convulsions in their effect upon the uterus; the latter generally hasten the progress of the labour; the former always retard it, and protract the delivery. The prognosis is also very difficult; hysterical convulsions are never dangerous; true puerperal convulsions are always so; but, if hysterical convulsions are the result of some great mental shock, then they are the most dangerous, because they are the forerunners of the worst form of puerperal convulsions.

The treatment of hysterical convulsions also differs from that which is found the most useful in hyperæmic convulsions—depletion, tartar emetic, and such like antiphlogistic remedies, cannot be employed. You may look upon a case of this kind as being one of nervous exhaustion, that depletion will increase; for the same reason, tartar emetic, and other remedies that depress the circulation, are objectionable. Our first object should be to arrest the paroxysms, which may be done by the use of cold water dashed against the face, to cause a shock to the nervous system. It has the same effect in stopping the paroxysm here as in the sthenic convulsion, but not alone from its direct effect on the nerves. The patient has not lost her consciousness, and shows every evidence of dislike to so disagreeable a remedy. She therefore exerts a certain amount of mental control, and the convulsions cease.

In hysterical patients the bowels are generally very irregular, frequently constipated, and the large intestines loaded with scybalæ: the evacuations are dark-coloured, and most offensive: hence the irritation of hardened fæces often causes and maintains the convulsions. Strict attention should, therefore, be paid to the state of the bowels—an enema of turpentine or assafœtida is often of great service in removing such irritants, and shortening the fits. When the bowels are completely relieved, the diffusible stimulants, such as ether, ammonia, camphor combined with opium, generally procure the patient some sleep, after which the convulsions disappear. In convulsions like these, I think chloroform might be of much service, on the same principle as ether and opium, but as yet I have no experience of it.

The treatment of patients liable to such attacks is the most successful when undertaken for some time before labour begins. Here, especially, prevention is better than cure. If, during pregnancy, the state of the digestive organs are attended to, the bowels kept open, and the character of the evacuations improved, the risk of such attacks during labour will be greatly diminished.

Original Communications.

NARCOTISM BY THE INHALATION OF VAPOURS.

By John Snow, M.D.

Vice-President of the Westminster Medical Society.

[Continued from last volume, p. 1025.]

Part IX.

1. *Condition of patients subsequent to amputation under chloroform.* 2. *They are not more liable to secondary hæmorrhage.* 3. *Statistics of result of amputations under ether and chloroform.* 4. *Their administration in minor amputations.* 5. *In lithotomy.* 6. *Results of cases of lithotomy.* 7. *Chloroform in lithotrity.* 8. *In the treatment of stricture.* 9. *In operation for necrosis.* 10. *In the removal of tumors of the female breast.* 11. *In the removal of tumors of the maxillary bones, and other large operations on the face.*

1. In amputations under chloroform, the patient is not only saved the immediate pain of the operation, but generally, also, the greater part of the subsequent smarting; for the common sensibility usually remains more or less blunted for some time after the return of consciousness, and the smarting is often not felt at all for half an hour after the operation, and then but slightly. In a few cases, however, pain is felt in the wound as soon as consciousness returns. In two or three cases in which the smarting was distressing, I have exhibited a little chloroform, from time to time, with complete relief, during the first hour or two that followed the operation;

after which the pain shewed no tendency to return. I have tried the local application of chloroform over the wound, in one or two instances, but it was applied external to other dressings, and not much effect was observed from it. The nervous system is tranquillized by the chloroform inhaled during amputations, and the spasmodic starting of the stump, that without its use would generally be distressing, hardly ever occurs.

2. One of the reports in circulation, soon after the inhalation of ether was introduced, was, that it gave rise to secondary hæmorrhage—probably some surgeon met with it in one or two cases. Secondary hæmorrhage, however, is by no means common after either chloroform or ether. Although I have administered one or other of these vapours in fifty-seven cases of the larger amputations, there has not been secondary hæmorrhage of any consequence, except in two instances, and it has been equally uncommon after other operations. As inhalation prevents the fainting that would otherwise often attend an operation, and generally also stimulates the circulation more or less, we might expect that it would facilitate the tying of all the vessels, and thus be a means of preventing secondary hæmorrhage; and experience seems to confirm this view.

3. Preventing the severe pain of the larger operations may reasonably be supposed to have some effect in diminishing their danger; and as the result of the larger amputations had previously been made the subject of statistical inquiry, they at once suggest themselves as a means of comparing the present with former practice. But a statistical inquiry is evidently incapable of shewing what is the direct effect of the use of chloroform and ether on the mortality resulting from operations. For, if a slight difference should be found, it might be supposed to depend on the altered circumstances under which operations are sometimes performed since the introduction of anæsthetics; as, on the one hand, patients are occasionally induced to submit to them earlier, and when the circumstances are more favourable than they otherwise would be; and, on the other hand, an amputation is now and then undertaken, when the patient is so reduced, or his prospect of recovery from it so bad, that it would not performed if the pain had to be inflicted. Still, it is proper to make a statistical inquiry, as it would be interesting to know whether the use of those agents has any appreciable effect, direct or indirect, on the mortality; and it may assist to dispel the fears of those, if any such remain, who think that the inhalation of them would be attended with notable ill consequences. With this view, I will here give the result of all the large amputations in which I have administered chloroform or ether. Although the number of cases I have to furnish is not large enough to determine this question, it will serve as a contribution towards that object.

The amputations in which ether was the substance employed, were 32 in number, and took place in 1847; those with chloroform were 25. Of these 57 amputations, five occurred in private practice; three of the thigh, of which two ended fatally; one of the leg, and one of the arm, both followed by recovery; 39 were performed in St. George's Hospital; 22 were amputations of the thigh, amongst which were six deaths; 13 of the leg, followed by three deaths; two of the arm, with one death; and two of the fore-arm, both ending in recovery. Eight of the amputations took place in University College Hospital; five of the thigh, all ending in recovery; two of the leg, in one of which the patient died; and one of the arm, which terminated fatally. Four amputations of the thigh occurred in King's College Hospital, with one death; and there was one amputation of the leg in the Hospital of the Fusilier Guards, performed by Mr. Judd: the patient recovered. The deaths were each occasioned by some well recognised cause, which the inhalation could neither induce nor prevent: generally erysipelas or inflammation of the veins.

The following table shews the result of all these cases together. None of them remain under treatment; and all the patients who did not actually recover are included in the deaths, by whatever cause decease was occasioned:

Seat of Amputation.	No. of Cases.	No. of Recoveries.	No. of Deaths.	Deaths per cent.
Thigh	34	25	9	26
Leg	17	13	4	23
Arm	4	2	2	—
Fore-arm	2	2	0	—
Total	57	42	15	26

If the two cases of amputation of the fore-arm be withdrawn, the total mortality will be 27 per cent. instead of 26. None of the above amputations were performed immediately after an accident, but were all either for disease or injuries sustained some time previously.* The mortality in the above cases is a little higher than shewn in a return by Dr. Lawrie of the amputations (primary ones being excluded) at the Glasgow hospital a few years ago,† but is much lower than a similar return by Prof. Malgaigne, from the Parisian hospitals.‡

In a collection of cases of amputation, from various hospitals, under ether and chloroform, in the Monthly Journal of Medical Science, April 1848, by Dr. Simpson, the mortality appeared much lower than in any previous tables; but as Dr. Simpson gave no instructions in his application for the return of amputations, that cases still under treatment should be excluded, there is reason to apprehend that he may have included such cases in his table, some of which may have since ended fatally. The return I furnished to him of operations under ether at St. George's Hospital is not correctly inserted in his table. Against the seven cases of amputation of the leg, there is a cypher in the column for deaths, where the number 1 ought to stand. This death arose from sloughing phagedena of the stump. I conclude that the discrepancy was occasioned by some mistake, and that, as I have mentioned it to Dr. Simpson, it will be corrected in his future tables; for I cannot suppose that it was intentionally withdrawn from the deaths, on account of the disease under which the patient succumbed.

4. In amputations at the ankle-joint, or tarsus, it is of course as needful to give chloroform as when the limb is divided higher up. Amputation of a finger or toe is an operation in which it is generally very desirable to inhale the vapour, as the pain of an amputation by no means diminishes in the same proportion as the size of the part on which it is performed. No particular directions are required respecting the mode of giving chloroform in the minor amputations, as what I have said concerning the larger ones is equally applicable to them.

5. Lithotomy is an operation in which I believe that every surgeon now considers it desirable, if not almost a duty, to have his patient made insensible. The practice of tying the hands and feet together with a bandage, to retain the patient in the required position, is still very properly resorted to. It is better to give the chloroform, so as to remove consciousness, before either the bandaging or introduction of the sound. This is especially desirable in the cases of children, and it is also the best plan in adults, as they begin the inhalation more at their ease. During the bandaging and sounding the effect of the vapour partially goes off, and therefore the inhalation must be resumed for a short time, so as to insure complete insensibility when the incision is made. The symptoms of insensibility were described in the last paper treating of the larger amputations. The patient should not be allowed to recover either consciousness or sensibility till the operation is completed by the extraction of the stone; and therefore, except when the operation is concluded in an unusually short time, it is necessary to give a little vapour from time to time, whenever the eyes shew that the patient is about to wake, or any slight shrinking or moaning indicates the beginning of

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* There have been eight amputations in St. George's Hospital performed immediately after injuries, in which ether or chloroform has been administered by one of the resident medical officers. Five of the patients recovered, two died, and one remains under treatment, going on favourably.

† MED. GAZ. vol. xxvii. p. 394.

‡ Archiv. Gén. de Médecine, tom. lviii. p. 40.

uneasy sensations. It must not be supposed when there are obscure indications of sensation from time to time during an operation, that there is severe pain of which the patient is unconscious, for the truth is, that sensibility returns gradually, as we learn, by actual observation, in those cases where complete consciousness returns before the common sensibity. Under these circumstances, the patient, when first beginning to feel, describes as something pricking or pinching, measures that would without anæsthesia cause intense pain, and does not yet feel what at another time would be attended with considerable suffering.

6. The cases of lithotomy, in which I have administered ether or chloroform, are nineteen in number, of which fourteen ended in recovery, and five in death. Eight of the operations were performed in St. George's Hospital, the patients being all children. They all recovered but one, and in that case there was extensive disease of the bladder and kidneys, one of which was dilated so as to form a pouch. Five of the cases occurred in University College Hospital, under the late Mr. Liston; two of the patients were children, and recovered; three were adults, of whom two recovered, and one—a very old man—died. Two of the cases were in King's College Hospital, both in children, and ended in recovery. And there have been four cases in private practice, all those of adults, three of whom died a few days after the operation, and one recovered. The three patients who died were far advanced in life, and their disease was of long standing. The patient who recovered could not have got through the operation had it not been for the chloroform: such was the opinion of Sir B. Brodie and Mr. Coulson. I alluded to this case in a paper I read last winter.*

It will be observed that twelve of the above cases were those of children, and that all of them recovered but one, who had a mortal disease at the time of operation; and that of the seven adults, four died. This difference between the mortality of lithotomy in childhood, and in the later periods of life, is in accordance with the usual experience of surgeons. I may remark of the cases that were fatal, that death was the result of causes quite independent of the narcotic vapour, as in all the other cases that I have seen in which operations have ended unfavourably.

7. Chloroform is generally given in St. George's Hospital in lithotrity. As the pain of this operation is usually not excessive, inhalation would not be employed if the surgeons did not feel quite satisfied of its perfect safety, and freedom from all ill effects. I have always seen the operation very satisfactorily performed under chloroform, both in this hospital, and on two occasions when I assisted Mr. Henry Chas. Johnson with it, in private practice. Besides preventing what pain there would be, the surgeons find that the chloroform has the further advantages of preventing the straining efforts of the patient, and enabling them to seize and crush more fragments at one operation than they otherwise could.

The chief suffering from lithotrity is often in passing the fragments; and in dismissing this subject I may allude to the opinion of the late Mr. Liston, expressed to his class in 1847, that the discovery of etherization would be a reason for choosing lithotomy in some cases, where otherwise crushing the calculus would be preferred, as the former operation at once frees the bladder from irritation, and is now stript of its greatest terror.

8. In the division of the urethra in the perineum, chloroform or ether is of course as necessary as in lithotomy. I have assisted with the inhalation in several such operations. One case may be alluded to here, on account of its important bearing on the treatment of stricture. It was a case in which this operation was about to be performed by Mr. Liston in University College Hospital, but was not required, owing to the relaxing effects of ether on the stricture.

John Willis, aged 42, had stricture of the urethra, caused by an injury twelve years before. He had passed his urine in a very small stream for the last three years, and latterly only by drops, and no catheter could be introduced, although it had been frequently attempted. When the patient was got fully under the influence of ether, a Number 1 catheter was introduced with the intention of passing it down to the stricture, preparatory to dividing it, by an incision in the middle line of the perineum; but it passed right on into the bladder, and the intended operation was not required. This took place on June 18, 1847; the catheter was retained in the bladder till the 23rd, when No. 2 was substituted for it, and subsequently larger catheters, and the patient went out cured on July 27th, being able to pass his urine in a good stream.

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* Lancet, Feb. 12, 1848.

9. There are no operations in which the utility of narcotic vapours is greater than in those for necrosis – operations that are generally of considerable duration, and which are amongst the most painful in surgery, on account of the great sensibility of the inflamed bone surrounding the sequestrum. I have given ether and chloroform in nearly thirty operations for necrosis in St. George's Hospital, besides a number elsewhere. The action of the vapour has always been quite effectual in preventing the pain. The majority of the patients were children, and during a great part of the time occupied in the operation narcotism generally did not exceed the second degree; that is to say, there was a dreaming or wandering condition of the mind, and not a state resembling coma.

10. The extirpation of tumors is perhaps the most frequent operation in surgery; but tumors differ so much in size, situation, and every other respect, that there would be no advantage in stating the general result of their removal. Operations for the excision of tumors of the female breast, however, sufficiently resemble each other to admit of such a statement being given.

The number of cases in which I have had to give ether or chloroform, for the removal of tumors of the female breast, involving the gland, is thirty-four. Nineteen of them were in private practice, in seventeen of which the patients recovered from the operation, and in two cases the patients died—one of them of pleurisy, and the other, apparently, of exhaustion. The other fifteen patients were in St. George's Hospital: thirteen recovered from the operation, and two died—one of peritonitis twenty-four days after the operation, the other of erysipelas.

By far the greater number of these tumors of the breast were of a malignant nature. There has not yet been time to ascertain the ultimate effect of the operation on the disease; and, indeed, I am not able to give the result to the present period. The patients in the hospital leave when they have recovered from the operation, and generally are not heard of again; and I only hear now and then, through their surgeons, of some of those in private practice. I am able, however, to state that some of the patients are now in pretty good health, who must long since have died a lingering and painful death if no operation had been performed. Any objections that existed to the removal of malignant tumors must have been greatly diminished by the introduction of narcotic vapours. Each case must, of course, be judged on its own merits; but the number of cases in which an operation may be properly recommended, and in which it will be submitted to, when the whole question is laid before the patient, must be considerably increased by the discovery of the means of rendering it devoid of pain.

11. The only surgical operations that present any difficulty to the total prevention of pain during their performance, are operations of considerable magnitude and duration, which involve the cavity of the mouth or nose, such as the removal of tumors of the maxillary bones. The patient can be rendered insensible before the operation, in the usual way, as easily as in other cases; but the difficulty is in repeating the inhalation so as to preserve the immunity from pain till its conclusion. It is best, in operations of the face, to exhibit the vapour well diluted, so that insensibility may be induced gradually, by which means the fluids of the body get more thoroughly impregnated, and its effects are more permanent. When inhalation of chloroform extends over three or four minutes, and the third degree of narcotism is well established, with insensibility of the conjunctiva, it is generally about three minutes before there are distinct signs of pain from the use of the knife. The effects of ether are, I think, a little more lasting, and therefore it would be preferable in such operations, were it not that chloroform can be more easily reapplied during the operation. To effect this, I drop a few minims of it, from time to time, on a sponge that has been squeezed out of cold water, and as soon as the patient evinces any sign of pain,

I apply it near to his mouth and nostrils for a moment, whenever the position of the surgeon's hands, and those of his assistants, will permit. In this way, if the pain cannot all be prevented, the patient can generally be kept so unconscious that he afterwards says that he felt nothing. It is only in protracted operations that the use of the sponge in this way is required, for the greater number of operations are concluded in two or three minutes.

There are some surgeons who think that chloroform in operations involving the mouth, and attended with considerable hæmorrhage, is not altogether free from the danger of blood getting into the trachea. This point requires to be very carefully considered, for whilst it would be improper to run a risk of this occurrence, the pain of large operations on the face is so frightful that the inhalation ought not to be interdicted on mistaken grounds. There are good physiological reasons for believing that the sensibility of the glottis would last, under the influence of narcotics, as long as respiration continued to be performed; but the best evidence will be that derived from experience. I have seen a great number of operations attended with considerable hæmorrhage into the mouth, in which ether or chloroform has been given, and no ill effects have followed in any case. The result of my observation consequently is, that there is no danger of blood getting into the air passages when these agents are carefully given, and the same attention is paid to the patient's position and breathing that would be in the absence of insensibility. There was one operation at which I assisted last summer, where the patient died soon after it was performed, and as I have heard that a report got abroad, in some parts of the medical world, that death was occasioned by blood entering the air passages, it may here be mentioned:—

The patient was a young man, with a large fibrous tumor in the situation of the left superior maxillary bone. For some time previous to the operation he had suffered occasionally from hæmorrhage from the affected nostril, to an extent which had reduced him considerably. The vapour was given to him rather slowly, with the apparatus I commonly employ, and he became gradually insensible, without previous excitement or struggling. In about three minutes the inhalation was discontinued, the narcotism having reached the third degree. The patient was passive, but the muscles were not relaxed. The breathing was not stertorous. Some teeth were now extracted without causing any sign of pain. A little more chloroform was then given to him, and when the inhalation was discontinued a second time he was in the same state as before the teeth were drawn. The operation was immediately commenced. I took no notes of the method in which it was performed, but can state that the superior maxillary and malar bones of the left side were removed. During the first part of the operation, whilst the flaps were made, the patient was perfectly quiet and silent; but afterwards he began to groan and move his limbs, and he was not again rendered altogether insensible; for although a few minims of chloroform were from time to time sprinkled over a sponge, which was, now and then, held near his face, yet, owing to the hands of the operator and his assistants being in the way, and the cavity of the mouth and nostril being laid widely open, he got very little of the vapour, and the only effect of it was partially to quiet him on one or two occasions. After the first two or three minutes of the operation the effect of the chloroform never exceeded the second degree. The patient executed voluntary movements of his arms and legs; sometimes it was necessary to hold his hands, and at one time he appeared conscious, for he folded his arms as if making an effort not to raise his hands to the seat of pain. He coughed now and then, and seemed somewhat embarrassed with the blood in his throat. He was seated in a chair, but as there was no window in the operating theatre except the skylight, his head was obliged to be inclined rather backwards. He was leaned forwards once or twice, to allow him to get rid of the blood, and it appeared that he vomited some on one of these occasions. Towards the conclusion of the operation, and at a time when he was very little under the influence of chloroform, he fainted. He was laid down, and brandy was given to him. No more chloroform was administered after this time. He partially rallied from the syncope, but again became faint. The actual cautery was applied, but oozing of blood continued until the moment of death,—about half an hour after his removal into another room. During this interval he was much exhausted; his pulse was small, and difficult to feel. He was tossing himself about in a restless manner, but there was no difficulty of breathing. He seemed quite conscious, doing as he was told, but, of course, could not speak, from the nature of the operation. I left a few minutes before the patient's death. When he ceased to breathe, tracheotomy was performed, and artificial respiration exercised by the opening, with no beneficial result. In my opinion this measure was not indicated, but of course it could do no harm.

After death, portions of the tumor were found still remaining attached to the posterior and upper part of the cavity, and projecting into the foramen lacerum of the orbit and right nostril, as well as in other directions. The trachea and bronchi contained some frothy blood. Numerous small dark spots of congestion were met with in the lung, resulting from some of the small bronchi being filled with blood.

It is evident that the chloroform did not contribute, either directly or indirectly, to to this patient's death, for the following reasons:—1st. That the tracheotomy and artificial respiration sufficiently account for the small quantity of blood found in the bronchial tubes. (An eminent physician-accoucheur has informed me that in cases of still-born children, in which he has performed artificial respiration by an incision in the larynx, he has always found blood, after death, in the bronchi.) 2nd. If there had not been this reason for blood in the lungs, it would be more likely to have entered when the patient was moribund, or during the syncope, than at an earlier period. 3rd. That the symptoms did not indicate any impediment to respiration, but were such as I have seen in uterine hæmorrhage, and such as were met with after the removal of the superior maxillary bone by a very eminent operator in this metropolis, before the introduction of ether. 4th. That if the judicious use of chloroform caused a liability to the entrance of blood into the bronchi, there would have been some symptoms of it in the numerous patients who have recovered from similar operations in the narcotised state; but such is not the case. And 5th. That the quantity of blood met with in the lungs was not enough to cause rapid death.

In dismissing this case, I wish to state my belief that the operation was a very proper endeavour to cure the patient of a disease that must inevitably have been fatal in a short time; and that my reason for alluding to it is, that if I should leave it unnoticed, in treating of chloroform in operations on the face, I might be suspected of keeping back a material fact.

I will now enumerate the other operations, for the removal of larger tumors of the jaw, in which I have exhibited narcotic vapours.

In May 1847, Mr. Liston removed a large tumor of the lower jaw, in a young lady, dividing the bone far back, near the rami, on each side. He was assisted by Mr. Morton, Mr. Cadge, and others. The patient took ether.

On December 23, 1847, Mr. Henry Charles Johnson removed one of the superior maxillary bones of a young man, in St. George's Hospital, for a large tumor. This, and the remaining patients, inhaled chloroform.

A few days after the last operation, Mr. Fergusson removed a large tumor of the lower jaw, occurring in a gentleman. Sir B. Brodie was present.

Early in January 1848, Mr. Fergusson also removed a large tumor of the upper jaw of a middle-aged woman, in King's College Hospital. The tumor had been removed once before, but had returned.

In May last, Mr. Tatum removed a very large tumor of the lower jaw of a Spanish gentleman, in St. George's Hospital, dividing the bone near its symphisis, and disarticulating it on one side.

In November last, Mr. Fergusson removed a tumor of the superior maxillary bone in a little girl, in King's College Hospital.

In the same month, Mr. Fergusson also removed a tumor of the lower jaw in a young man, a patient in the same hospital.

The above patients all recovered favourably from the operation.

I have seen chloroform and ether employed, also, in a number of other operations in which a good deal of blood flows into the mouth and throat; such as operations for epulis, and polypi of the nose. Sometimes the patients can be observed to swallow the blood, with an act of deglutition; but usually it seems to flow down the pharynx and œsophagus without distinct muscular effort; and if the quantity of it is not very large, it does not in any way interfere with the glottis.

When infants are laid on the back, during the operation for hare-lip, the blood is swallowed, whether they are narcotised or not; and when they are insensible, it goes down with less appearance of choking than when they are crying from pain.

CASES OF ACUTE LARYNGITIS;

WITH REMARKS.

By M. G. Everett, M.D. &c.

There is perhaps no disease in the order Phlegmasiæ, of which the dangers are at the same time so imminent and precarious, as that which forms the subject of the following communication—the *acute* form of laryngitis. The cases related occurred during the autumn of the past year, and, as will be seen, were all fatal. They illustrate the extremely treacherous character of the disease, and, as a consequence, the importance of an early resort to tracheotomy as the only means deserving of confidence for ensuring even the temporary safety of the patient. It is impossible to read the recorded histories of the disease without being struck with the inefficacy of ordinary therapeutic resources, however actively applied; and it may perhaps be fairly questioned, whether under such treatment the genuine *acute* form of the disease be not necessarily fatal, and whether the alleged cures of such should *not rather* be attributed to the mildness of the disease, or some other favourable circumstance on the part of the patient, than to the actual efficacy of the means used, as regards those cases in which the disease presents its worst characters. It would seem, moreover, that appearances of amendment, such as would be considered quite satisfactory in other cases of inflammatory disease, and such as would appear to negative the propriety of surgical interference even in this, are not to be depended on, and that the patient, though appearing much relieved by treatment, may be still liable to those paroxysmal attacks of suffocation which often constitute its most dangerous and difficult features, and from which there is evidently therefore no means of guarding him but by timely operation.

Case I.—Mr. C. H., æt. 44, August, 1848.—Had been under medical treatment for some days for cynanche tonsillaris, and was much better, but on the 21st inst. experienced a relapse, in consequence of exposure on the previous day. On the afternoon of the 22nd he complained of some difficulty of breathing, and during the night of that day I was requested to see him. He had then difficult and slightly sibilant breathing, hoarseness, cough, copious expectoration of viscid transparent mucus; slight pains and tenderness in the region of the larynx; pain and difficulty in swallowing; the throat was inflamed, and the tonsils slightly enlarged. There was but little heat of skin; the pulse 90, and weak; and there was great depression of strength, which it was stated had existed throughout his illness. Under these circumstances tartar emetic was given at short intervals, at first in emetic doses, and afterwards in sufficient quantities to keep up nausea, and counter irritation was applied to the neck. Early on the following morning he was no better, and was more feverish. He was bled till he felt faint (℥xxiv.), and twelve leeches were applied over the larynx, which bled very freely, and tartar emetic and calomel were given every hour. At noon, he expressed himself confidently as feeling much better, and appeared to be so, but as there was not that complete relief which was desirable in a case of so much danger, and as there did not appear to be much scope for further treatment, it was considered that the time had arrived for discussing the propriety of tracheotomy, and accordingly Mr. Norman, of Bath, was requested to see him for that purpose. I saw him again at 3 P.M., and there was not at that time any discolouration of the skin, or any other sign of impending asphyxia, and he still expressed himself as feeling better. At about five o'clock I was informed that he was dead, the only alteration which had preceded his death having been that he was restless, and got out of bed.

Although Mr. Anstie* attended immediately, he was dead before he reached him. I should have stated that the pulse was irregular during the whole of this day, both before and after the bleeding, but whether owing to the tartar emetic which he was taking, or to the effect of impeded circulation through the lungs on the heart's action, I am unable to decide. On examination a few hours after death, the lining membrane of the larynx presented every where a deep crimson colour, which extended, but in a less degree, into the trachea, where it terminated abruptly about two inches below the larynx. It was much thickened, and the epiglottis was greatly enlarged, the aperture of the rima glottidis being reduced to a chink of the smallest extent. A layer of false membrane, which could be easily peeled off, covered these parts, and extended some distance down the trachea. There was considerable redness of the throat, though but little swelling of the tonsils. The larynx and trachea were so firmly ossified throughout, that they could not be cut with a knife, and could only be divided with difficulty by a strong pair of scissars. The coincidence of this circumstance with a disease requiring tracheotomy must be considered as somewhat remarkable, and as the neck was unusually short and thick, would have presented a difficulty, had tracheotomy been performed, as embarrassing as it would have been unexpected. The other organs were not examined.†

Case II.—Nov. 1848. Mr. H., ætatis 38, after exposure to wet and cold for two or three days in travelling, was seized, on the evening of the 1st inst., with symptoms of ordinary sore-throat, and in the course of the night the breathing became difficult and oppressed. I saw him on the next day, when he presented the following symptoms:—difficult respiration, attended with a sibilant sound; cough, with expectoration of transparent mucus; hoarseness; pain and tenderness in the region of the larynx; great difficulty of swallowing, with soreness and redness of the fauces, and there was considerable pyrexia. Bleeding, leeching, and tartar emetic and calomel at short intervals, were used, as in the former case; and as he had had slight suffocative attacks, a consultation was called to consider the propriety of resorting to tracheotomy without further delay, and in the meantime arrangements were made for its immediate performance, should it become necessary. This consultation took place in the evening, and he then expressed himself so much relieved, and appeared in reality so much better, that there seemed to be no justification for operating, and it was therefore determined to continue the treatment, and be in readiness to operate without loss of time if it became requisite. When on the point of leaving the house we were summoned up stairs, and found him in the act of suffocation. He was sitting up in bed, throwing his arms about, and making convulsive and ineffectual efforts at inspiration, which were attended with a loud stridulous sound: the surface was livid, cold, and clammy; and the pulse feeble, rapid, and irregular. Tracheotomy* was immediately performed, but it was some time before he rallied. There was considerable venous hæmorrhage during and after the operation, which was arrested by pressure. During the night he complained of pain in the chest, and difficulty of breathing (not relieved by clearing out the tube), and a blister was therefore applied to that part, and relieved him. For two or three days subsequently he was in an exhausted and feverish state; but during this time nothing occurred worthy of notice. As he had not the power of swallowing, nutrient enemata were administered, and the blister was dressed with murcurial ointment. By the end of this time considerable improvement had taken place in the laryngeal symptoms. He was able to swallow, the voice was much louder, and he could breathe through the larynx. On the fifth day after the operation he had an attack of diarrhœa, to which there had previously been some tendency, which left him in a weak and exhausted state; and in the evening he was evidently sinking. He had difficulty of breathing, and pain in the right side, for which a sinapism was applied. Stimulants were freely administered, but he gradually sank, and died early on the following morning, on the sixth day after the operation, and the seventh of the disease.

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* Cases I. and II. were attended by Mr. Anstie, of this town.

† The details of this case were read by Mr. Norman at the Meeting of the Bath and Bristol Branch of the Provincial Medical and Surgical Association, in September last, and are published in the number of its Journal of the 10th of the present month.

* The operation was performed by Mr. Norman with his usual skill, and with the rapidity which the urgency of the case required.

For three or four days preceding his death, the wound in the neck had been in a sloughing and unhealthy state.

On examination, fifteen hours after death, but little appearance of disease remained in the larynx: its lining membrane was thickened, but scarcely more vascular than natural. That of the trachea, below the wound, which formed a distinct demarcation between the vascular and non-vascular appearances, was highly injected, and of a bright crimson colour, as was also that of the bronchial ramifications, as far as they could be traced. The lungs contained a great quantity of frothy mucus. They were much congested throughout, especially in the lower lobes, parts of which did not crepitate on pressure, and the central portion of the right lower lobe was in a state approaching to hepatization. The pleural cavities contained a small quantity of serum, and there were old pleuritic adhesions on the left side. The stomach and small intestines presented patches of minute vascularity in the upper as well as in the depending portions; and in some of these a few points of ulceration were visible. The liver was larger, and presented a greater portion of yellow matter, than natural. The integuments and muscles surrounding the wound of the operation were in a sloughy and discoloured state, and the cartilages of the larynx immediately above it were denuded and ulcerated to an extent about the size of a finger nail. A large vein crossed the centre of the wound, and had been divided in the operation.

Case III.—Miss C. G., ætatis 24. Nov. 1848. I was requested to see this patient on the evening of Nov. 2nd (the same day as that on which the previous case occurred), and was then informed that she had been suffering from sore-throat for about a week, which, up to the preceding evening, had been getting better, when it again became worse, in consequence of exposure during the day, and was then, for the first time, attended with difficulty of breathing, which continued to increase till the time of my visit. Her symptoms were similar to those of the foregoing cases. There were considerable inflammation and great soreness of the throat, total inability to swallow, complete loss of voice, so that she could only speak in a whisper, pain and tenderness in the regions of the larynx; the breathing was difficult and hurried, but had less of the sibilant character than in the preceding cases; cough and expectoration, and bronchial râles, were heard on auscultation, and she had considerable fever. She had also had one suffocative attack, attended with considerable distress. As she was a feeble and delicate subject, and not likely to bear general bleeding to an extent sufficient to make an impression on the disease, leeches were freely and repeatedly applied over the larynx, and afterwards blisters in the same situation, and over different parts of the chest; and as she could not swallow, a powder containing calomel was placed on the tongue at short intervals. As the disease did not appear to be limited to the larynx, but to implicate also the trachea and bronchial tubes, it was considered advisable to avoid having recourse to tracheotomy if possible. She had a few slight paroxysms of suffocation during the night, and on the following morning one of so severe a character that it did not appear right to defer the operation any longer; but she resolutely refused to submit to it. The treatment was therefore continued, and I saw her again in the evening, when, though she had suffered severely in the meantime, and, though she was made fully aware of the consequences of her refusal, she still persisted in it. She became gradually worse, and died at about four the following morning, thirty-six hours from the commencement of the attack. For a few hours before death took place, the attack of suffocation ceased to recur, but the breathing became more and more laboured, and she gradually sank, retaining her consciousness to the last. During this period also, the voice and the power of deglutition returned, and the mouth and breath gave evidences of mercurial action, either local or constitutional. I regret that a post-mortem examination could not be obtained.

As a further illustration of the very insidious character often assumed by these cases, I may quote an example, briefly related by Mr. Norman, in the communication before referred to. It occurred in a gentleman of about fifty. "He was seized suddenly with difficulty of swallowing, at his dinner, and thought that some portion of his food had lodged in his throat. Soon after he had a hoarse cough, with painful rather than difficult breathing. He was bled, and was to have had leeches applied in a few hours after, with calomel and opium every hour, but he was so much relieved before the time for applying the leeches arrived, that they were omitted, and he appeared so much recovered, that all alarm had ceased on his part, and on that of the person about him; but in the evening of the following day the symptoms returned. He had the same restlessness and gasping inspiration that marked the case now related, and he died suddenly, having been just before walking about the room. The post-mortem appearances were the same as in the case just detailed."

Other examples of the same kind are to be met with among the published cases of the disease, but I must not trespass on your valuable space by further notice of them.

For the sake of contrast, I will briefly notice two cases of the *subacute* (or, as I may, perhaps, be allowed to term it in contradistinction to the foregoing, the *curable*) form of the disease, which I have recently seen. The subjects were young adults. They had the same symptoms as before enumerated—difficulty of respiration and deglutition, hoarseness, pain, and tenderness in the larynx, &c., but in a slighter degree, and without the suffocative paroxysms which characterized these. They both yielded favourably to the usual antiphlogistic remedies, though one of them suffered much distress for nearly twenty-four hours, and required to be twice bled, and to be freely leeched. I allude to the cases, because I am inclined to think that it is to the category of such that some at least of the alleged cures of the *acute* form of the disease are to be referred.

In reviewing the three cases first related, it will be seen, with respect to their causes, that they were all distinctly traceable to exposure to catarrhal influences, the weather having been unusually wet and cold at the periods of their occurrence, and that the laryngeal affection appeared to have been consecutive in all to inflammation of the throat.

With regard to the symptoms, I have to notice, as points which do not appear to have received the consideration to which they are entitled, the paroxysmal attacks of suffocation, and the deceptive appearances of amendment, which seem to be no unusual occurrences in those cases which afterwards terminate suddenly and fatally. In Case II. the patient appeared so much better a short time before the attack which nearly proved fatal to him, that it was afterwards remarked that, had it been predicted, it would not have been believed possible. His respiration was easy and noiseless, his power of deglutition much improved, and he was able to speak aloud.

With respect to the employment of auscultation in these cases, which has been recommended as a means of ascertaining the quantity of air entering the lungs, and thus measuring the amount of obstruction, I would remark that in neither of these cases, excepting that in which bronchitic râles existed, was any evidence of this kind afforded by it. Indeed, if it be considered that the effects of the disease, as regards the respired air, depend more on the imperfect renewal of that contained in the lungs, and its consequent deterioration,* than on any other cause, it does not appear calculated to fulfil any other object than the very important one of determining the presence or absence of pulmonary complications. As to prognosis, it has been seen that the first of these cases terminated within twenty-four hours after the commencement of the laryngeal symptoms; that the second would have done so, had not assistance been immediately at hand; and the third in about thirty-six hours. Other remarks suggested by this part of the subject have been anticipated by those already made.

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* It is suggested by Mr. Norman that the occurrence of sudden death in some of these cases, without laborious breathing, may be probably accounted for by this retention of carbonic acid in the lungs.

In the treatment of this disease it appears important to bear in mind, as the most formidable of its dangers, the sudden occurrence of asphyxia from spasm or other causes, as attention appears to have been rather too exclusively directed to its more gradual forms, in which its approach is made manifest by premonitory symptoms. A distinguished writer observes, with respect to tracheotomy in these cases, —"As long as the complexion is good, and asphyxia not threatened, it may be delayed;" but it is evident that, if we wait till the contrary indications exist, we shall in many cases have waited too long. When we consider the extremely precarious and fatal character of the disease even according to the most favourable calculations, its rapid course, and the admitted inefficacy of treatment, would it not be the safe and proper course, when the *acute* and *limited* form of the disease is ascertained to exist, particularly if the symptoms assume the paroxysmal character so much to be dreaded, at once to resort to tracheotomy as the first and chief resource? When we read of one celebrated patient who lost 90 ozs. of blood in 24 hours, and of another individual who lost 126 ozs. during a short period, and both of whom died, not from the remedy, but from suffocation by the disease, we can need little further proof of the hopelessness of ordinary treatment. It would not be easy to lay down rules for determining the *acute* character of a case, as this must be a matter of individual tact and experience, and, as such, not one of much difficulty. Mr. Porter, in his work "On the Surgical Pathology of the Trachea and Larynx," says that tracheotomy should be the first instead of the last resource" in these cases; and he makes a remark, which appears to be borne out by experience, viz. that the disease usually subsides after the operation, with but little further treatment. Mr. Lawrence says that it should be resorted to as soon as the symptoms enable us to ascertain the nature of the disease; and other authorities might be quoted to the same effect. By an early resort to the operation, we at least ensure the temporary security of the patient, which can be obtained by no other means, unless the practitioner were to remain with him, and be prepared to operate on the instant, if required. It also presents the advantages of the parts below the larynx being less involved in the disease than at a later period, of obviating the congestion of the lungs consequent on a state of continued dyspnœa, and on the occurrence of suffocative attacks, of avoiding the complications necessarily resulting from very active treatment, and of the general condition of the patient being more favourable than in the advanced stages of the disease.

I cannot consider the unsuccessful result of the case No. 2 as any argument against the operation, as the patient was an unhealthy subject, and the attack of suffocation, which was so nearly fatal to him, must have had a very unfavourable effect on the subsequent progress of the case. The post-mortem appearances in the trachea and lungs in the case just referred to, appear to suggest, as points deserving of attention in the treatment after the operation, that the patient should not breathe a cold air, and that the tube should be removed as soon as it can be with propriety. I will conclude with a quotation from the excellent lectures of Dr. Watson: "It is a bad and foolish practice to wait, and try other methods, and postpone the operation as *a last resource*, when the circulation is evidently loaded with unarterialized blood. In my own case I should choose to be operated on early; the moment that I found early bloodletting was not *telling* on the local distress, and that any shade of darkness became perceptible in the skin, just as I should choose to be operated on for strangulated hernia, after one fair attempt had been made by a skilful hand to return the bowel, without waiting till inflammation had set in, or had been *caused* by the taxis."

Devizes, Jan. 13th, 1849.

A TOPICAL APPLICATION FOR BRUISES.

BY M. DE MONTFZE.

POWDERED senna, powdered verbena, and powdered white pepper, mixed in equal proportions with white of egg. The application of this mixture has been found effectually to promote the absorption of blood effused in bruises, and also to allay the attendant pain.—*Journal de Chimie Médicale*, Dec. 1848. X

MEDICAL GAZETTE.

FRIDAY, FEBRUARY 9, 1849.

We copy the subjoined paragraphs in reference to the Swiney Prize, from our two weekly contemporaries:—

Royal College of Physicians.—Dr. Paris, the President of this College, and Mr. Fonblanque, have just had awarded to them by the Council of the Society of Arts, a service of plate, and 100 guineas, for their joint work on "Medical Jurisprudence."—*Lancet.*

Reward of Merit.—The prize of 100 guineas and a service of plate has just been awarded by the Society of Arts to Dr. Paris, President of the College of Physicians, and Mr. Fonblanque, for their joint work on Forensic Medicine.—*Medical Times.*

As the circumstances connected with this prize are of rather an extraordinary nature, and a prize of similar value is to be distributed quinquennially, we feel it necessary to make some remarks on the subject. The interests of medical authors are, as it will be seen, closely concerned in the result.

Dr. Swiney was a wealthy physician who died on the 20th January, 1844; and, among other bequests for scientific purposes, left by his will a certain sum of money as a prize to be awarded on every fifth anniversary of his death, to the author of the best published work "on jurisprudence."

We here subjoin official extracts in relation to the bequest on which we now propose to make some remarks.

"*Extracted from the Registry of the Prerogative Court of Canterbury.*

"In the Will of George Swiney, late of Grove Street, Camden Town in the Parish of St. Pancras, in the County of Middlesex, Doctor of Physic, deceased, dated 27th May, 1831, is as follows:—

"I leave five thousand pounds stock in the same 3 per cent. consolidated fund, to the Society for the Encouragement of Arts, Manufactures, and Commerce, instituted in the year 1753, in trust to apply the dividends therefrom arising, to the following purposes—viz. That they do on the fifth anniversary of my decease, and on every fifth anniversary of the same afterwards for ever, present to that Agriculturist being a Leaseholder in England, Wales, or Scotland, who shall, during the five years preceding the day of presentation have brought into Arable Cultivation the greatest quantity of waste land, *a silver goblet of the value of one hundred pounds, containing gold coin to the same amount*, and that they do apply the remainder of the dividends therefrom arising to the general purposes of that Institution."

"In the First Codicil (to the said Will), dated 14th November, 1835, is as follows:—

"And whereas there is in my said Will a Trust to the Society of Arts for a prize to be given to the cultivator of the largest extent of waste ground, I do now revoke that bequest, and I leave the sum of five thousand pounds stock in the three per cent. consolidated fund to the same Society of Arts, in trust for the purpose of presenting, at similar periods, a similar prize to the *Author of the best published work on Jurisprudence, to be adjudged by the Members themselves, and the Fellows of the College of Physicians, with the wives of such of both as may be married, for ever, the surplus to be applied as directed—viz. to the general purposes of the Society.*

"Proved at London, with two Codicils, the first Codicil being contained in paper writings marked A and B, the 17th Feb. 1844, before the Worshipful Frederick Thomas Pratt, Dr. of Laws and Surrogate; by the oaths of the Reverend Josiah Forshall, Clerk; the Reverend John Peers, Clerk; the Reverend Francis Augustus Cox, Clerk, Dr. in Divinity, and Arthur Aikin, Esq.; four of the Executors to whom administration was granted, having been first sworn duly to administer, power reserved of making the like grant to Hutchinson Bell, Esq., the other Executor, when he shall apply for the same.

"CHAS. DYNELEY,
"JOHN IGGULDEN,
"W. T. GOSTLING," } Deputy Registrars.

The first fifth anniversary of the testator's death occurred on the 20th January, 1849, and on that day the SWINEY PRIZE was awarded to DR. J. A. PARIS, F.R.S., President of the Royal College of Physicians, and J. S. M. FONBLANQUE, Esq., one of the Commissioners of the Court of Bankruptcy, the authors of a work called Medical Jurisprudence, as the authors of the "best published work" on the subject proposed.

So far as we can ascertain, no proceedings respecting the adjudication of this prize were taken by the Members of the Society for the Encouragement of Arts, or the Fellows of the College of Physicians, until the 5th July, 1848. We are indebted to an influential Member of the Society of Arts for the following extracts from the Minutes of that Society in relation to this award:—

July 5, 1848.—Committee appointed, viz. Mr. Tooke, Dr. Harding, and Mr. Forster, to consider and report.

Oct. 6th.—Communication was entered into between the Committee and College of Physicians. President requested by the College to appoint a Committee—Dr. Monro, Dr. F. Hawkins, and Dr. Nairne.

Reported to the Society, Jan. 17th, 1849.—That a work in 3 vols. 8vo. published in 1823, called Medical Jurisprudence, is the best work on the subject, and that the authors of it, J. A. Paris, M.D., and J. S. M. Fonblanque, are conjointly entitled to the bequest in question.

Moved by Mr. Webster, seconded by Mr. P. L. N. Forster, that the Swiney prize be presented as recommended.

Jan. 20th.—Mr. Tooke in the chair. The Swiney prize was presented.

It thus appears that there have been four meetings of the Society: one on July 5th, to appoint a special Committee of three; a second on the 6th Oct., when a communication was entered into with the College of Physicians. Application was made by a member to the Society, in November and December 1848, for information respecting the terms and time of the proposed award; but the answer returned was, that the Special Committee appointed at the meeting of July 5th, had not made a report. It now appears that the report was not made until the 17th January, 1849, *i. e.* only *three days* before the period at which, by the terms of the will, the prize was to be given to the author of the best work on jurisprudence; and on the 20th January, Mr. Tooke, one of the Special Committee and reporters, acted as chairman, and presented the prizes to the two gentlemen above mentioned.

It is to be presumed, that between the 6th October and the 17th January, the six gentlemen appointed as judges were privately and industriously engaged in reading the different works on medical jurisprudence, and comparing their merits; and that, after due deliberation, they came to the conclusion, that a treatise which, whatever may have been its merits when first published, is obviously, by its date, a quarter of a century behind the present state of medicine and jurisprudence, was *the best work* on the subject: hence it follows, if their judgment be correct and unimpeachable, that the science of Medical Jurisprudence has not made a single step in advance during the last twenty-five years.* Whether they be right or wrong in this opinion, is not the question. They have exercised their judgment, and such is the verdict.

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* The six judges probably intend by the words of the report "the best published work on the subject" in or before the year 1823. If this be their meaning, we have nothing to say against the judgment. If, however, by this authoritative declaration, they intend to put the prize-book in comparison with others which are now alone used by and known to English practitioners in law and medicine, it is probable the members of the two professions may be in-

Several questions, however, arise with regard to this award. We put aside the virtual denial of competition,* and the perfect concealment of the time and circumstances of the award, until the silver goblet, with its contents, was actually made and ready for delivery to the gentlemen who have been fortunate enough to gain it. Our readers will, however, we think, agree with us that it was rather sharp practice to keep, for a period of five years all authors in ignorance of the matter except Dr. Paris, and to make a report only three days before the prize was actually given; but, so far, we believe the proceedings are *not* illegal. The judges were not bound by the terms of the will to give any such notice, and Mr. Wm. Tooke, F.R.S., a well-known legal gentleman, who has on this occasion acted in the three-fold capacity of judge, reporter, and chairman, no doubt took care that the wishes of the testator should be carried out in proper form.

It will be seen that the prize was assigned by the will to the best published work on "jurisprudence." This undoubtedly includes medical jurisprudence, but it also comprises works on all the branches of the law. We have yet to learn who fixed upon the special subject of *medical* jurisprudence.

But the question for consideration is—Has this prize been legally awarded according to the terms of the will? It appears obvious, from the extract from the codicil, that it has not been so awarded. The members of the Society of Arts have, practically, taken no share in this adjudication.* They are *themselves* appointed the judges by the will, and it is more than probable that the power to make this award was not even known to fifty out of the 1400 members of which the Society is said to consist. We are also informed that it is a question in equity, whether, by the terms of the will, the Members had any right to delegate the power of making an award, assigned so explicitly to themselves, to *three members* as a special committee. Whatever their own rules may be among themselves, the Society cannot assume power to depart from the precise terms of a bequest.†

On the part of the College of Physicians, the proceedings also appear to have been contrary to the terms of the will. The decision is left with the Fellows and the *wives* of such of them as may be married. The *Fellowesses* have not, according to the minutes,

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clined to take a different view. Dr. Paris's work was published in the early part of the reign of George IV. In reference to *Jurisprudence*, it directs medical men to shape their evidence by statutes which have been for many years repealed, and are no longer the law of the land. It necessarily does not contain the numerous statutes in reference to medical evidence,—poisoning, wounds, child-murder, abortion, rape, and insanity, passed in the reigns of George IV., William IV., and Victoria. The rules and directions bearing upon these subjects are, therefore, not only obsolete, but erroneous. Two lawyers, however, Mr. Tooke and Mr. Webster, in spite of these objections, which ought to have been known to them, have found it to be the best work on the subject. In *Medicine*, it necessarily does not contain an account of the researches of Orfila, Christison, and Devergie, or of the important discoveries of Marsh and Reinsch, with the extensive applications of Chemistry and the Microscope to every branch of medico-legal science. Nevertheless, three Fellows of the College of Physicians have pronounced in its favour.

We have been compelled to make these remarks, because the judgment is substantially depreciatory of other well-known works which are now used and consulted; and it is calculated to deceive the public, and those members of the profession who may not have had an opportunity of inspecting the prize-book. Either the judges read and compared the different works, or they did not, and in either case we leave the reader to draw his own conclusion. Medical practitioners and barristers will be able to form an opinion on this subject without any suggestion from us.

* Competition is not directly ordered in the will, but it is obviously implied, or the words "*best* published work" would not have been used.

* We have authority to state that no notice was given to at least two influential members of the Society, one of them being actually an executor under the will, on the subject of the appointment of a special committee, or on the adjudication of the prize.

† We do not know whether the recent incorporation of the Society may or may not affect this part of the question; but to suppose that *three* can fairly represent the wishes of 1400, or even of 500 members, is preposterous.

made any use of the powers thus vested in them by Dr. Swiney! We are informed by an influential Fellow of the College, that there has been no meeting of the College, and no general vote of the Fellows to vest in the President the extraordinary power of nominating whom he pleased, to decide (as eventually happened) upon the merits of his own work. We have the positive assurance of this distinguished Fellow, that no notice was sent to him of any meeting of the College for this purpose.[*] Admitting the legality of the delegation of this power by the Fellows, to any Committee of their own body, or to the President alone, it is a question when and how Dr. PARIS received this power to appoint. In the minutes of the Society of Arts it is stated that it was conferred on him by *the College* on October 6, 1848, but from what we can ascertain, the Fellows of the College know nothing of the matter; and each *fellow*, with his wife, if he had *one*, clearly had a vote, and a legal right to assist in the adjudication.[†]

If the terms of a will are to guide an award, the illegality of the proceedings must be apparent, although at least two, if not three, legal gentlemen have been concerned in the matter. Whatever may be said of the Society of Arts, the Fellows of the College of Physicians constitute a body of a limited number of highly educated gentlemen.[‡] *Each had a vote* on the merits of the works on Jurisprudence. The will of Dr. Swiney does not permit the Fellows to vest this power in a Committee. They are to exercise it for *themselves*, individually. Notwithstanding this, DR. PARIS, President of the College of Physicians, exercises the sole power of nomination, in a question in the result of which he is most deeply interested; and appoints as judges of the work or works on Medical Jurisprudence, three gentlemen, all of whom hold office with himself in the College—namely, Dr. F. Hawkins the Registrar, Dr. Monro the Treasurer, and Dr. Nairne a Censor!

Such is the history which we are at present able to furnish from authentic documents and reports, of the mode in which the First SWINEY QUINQUENNIAL PRIZE has been adjudicated and awarded; and, as "the goblet and the gold" are to be brought forward every fifth year for the benefit of some medical or legal gentleman, it is, we think, desirable that legal and medical writers should be at once informed of the precise manner in which the executors and trustees intend for the future to carry out the objects of the will. The Society for the "Encouragement of Arts, and we may now, we think, add, for the "*Discouragement of Science*," has for its President, His Royal Highness Prince Albert! In common with the Fellows of the College of Physicians, they are trustees for the fair award of a munificent donation; and probably the public notice which we have here given to the mode of practice pursued on the present occasion, may induce some modification in the award at the next quinquennial distribution, *i. e.* on the 20th day of January, 1854.

We shall, if possible, give an entire copy of Dr. Swiney's will in our next number, as it involves other matters of interest to the medical profession.

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[*] In a special case of this kind, where such an unusual power was to be put in exercise for the first time, it was only just that the subject of the "Swiney prize" should have been made known to each fellow. Such a subject should not have been treated in the common routine of "other business," but full information given. We have reason to believe that many of the Fellows have never heard of the Swiney bequest, or of the power given to them by Dr. Swiney's will, before the present time.

[†] Admitting that the votes of females might be equitably dispensed with in such a case, we do not see why each fellow residing in London should be deprived of the power of voting in a case of this kind, when the united opinions would have been of so much value.

[‡] Exclusive of the President, there are 170 Fellows, of whom 101 are resident in London. Among these are several gentlemen who have attained a high reputation in the science which was made the subject of the prize.

THREE LECTURES ON CHOLERA,

Delivered to the Students at St. George's Hospital, February 1832.

BY WM. FREDERIC CHAMBERS, M.D. K C.H., F.R.S.,
Physician to the Queen and Queen Dowager.

THESE lectures were first made public in the Theatre of St. George's Hospital, sixteen years ago, and show by their simple and didactic form for what auditory they were intended. I reproduce them as originally delivered, because passing events have only confirmed me in whatever opinion I then expressed on controverted points; while time has added so little to our knowledge, that a compendious abstract of the most important facts bearing on the subject, at that time observed, may not be without its use to those who have not leisure to collect the scattered literature of the period.

W. F. C.

2, Cumberland Street,
Feb. 1, 1849.

LECTURE I.

Introduction—Meaning of the word cholera—χόλη not necessarily bile—The disease not a new one—Caution concerning drawing comparisons between ancient and recent descriptions—Description of cholera by Hippocrates, Aretæus, Celsus, Soranus, Aurelian, and others—Sydenham, Morton, Tallman, &c.—By writers of the present day. The three stages of the disease, its duration anomalies—Appearances after death—Relation to remittent fever—Proximate cause—State of the blood.

GENTLEMEN,—I have undertaken, at your request, to draw up a short account of the disease which is now occupying the thoughts, and exciting the solicitudes of the public, as well as of the medical profession. I wished, and intended indeed, to offer you a more complete treatise on the subject than I have had time or leisure to perfect, and must crave your indulgence for the crude diffuseness of many parts of my observations. Yet I trust that though wanting the essentials of a polished composition, they may at least appear to deserve the attributes of clearness and simplicity.

The subject we are about to consider is Cholera; or, Cholera morbus. Now I think that if we view this disease as one which may fairly be discussed in a course of lectures on the practice of physic, it is of more importance to examine in detail its symptoms, pathology, and treatment, than to draw out to any great length speculations on the secret and mysterious sources to which its origin may be traced, or to describe the circumstances under which it is alleged to have been transmitted from person to person, from city to city, and from continent to continent.

I do not mean to say that we should omit altogether these points, involved as they are, and must be, in a maze of controversy; but be satisfied merely with placing them in their true position (for us who view them as physicians)—namely, as important, nay, very important, but many degrees less so than a concise delineation of the essentials of the disease, and a consideration of the best mode of removing or alleviating its symptoms.

What, then, is cholera morbus? Under this head have been ranged diseases varying considerably in intensity, and presenting features of great discrepancy, apparent, if not real, in their symptoms. By this name has been commonly designated, in the language of the public, and of the profession also, every disease, from the mildest bilious or pituitous diarrhœa, when accompanied by muscular spasm, internal or external, passing through every gradation of severity, up to the most formidable epidemic by which the human race has been ever scourged. This more severe form of the disease has been latterly named, from the regions in which, previously to its recent invasion of Europe, it was best known, the Indian or Asiatic cholera, and sometimes, on theoretical grounds, "cholera pestifera" or "maligna."

With respect to the etymology of this disease, I need scarcely say that it is derived from the Greek word χόλη.* It must, however, never be forgotten, that the ancients, having but limited views on physiological and pathological subjects, did not intend this term, as we do the English rendering of it, to designate the secretion of the liver alone, but comprised under it all morbid humours of whatever character. Nor, indeed, even down to the time of Sydenham and Morton, were any precise notions attached to the word by practitioners and writers on medicine.

It is not, therefore, necessary to go back to the pages of Hippocrates or Aretæus to prove that this word was not formerly used to signify exclusively the brownish yellow or greenish secretion which we now call bile, and consider to be the product of the liver; for we find Sydenham himself, in his account of this very disease, as it raged in the London of his days almost every autumn, describing it as characterized not by a flow of bile from the intestines, but by the copious ejection, both sursum and deorsum, of morbid secretions—"pravi humores."

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* Alexander of Tralles, indeed, derives it from ολας,. "an intestine;" but he is unique.

The last paragraph will have shown that, in my opinion, the disease which has been lately so extensively fatal throughout the civilized world, is no new one; that as far as any two diseases prevalent in different countries, or occurring in different individuals, can be considered identical, it is the same as that which has been recorded by Hippocrates as raging at intervals in Athens and Thasos; by Aretæus, in Asia Minor; by Celsus, Galen, and Aurelian, at Rome; at Bagdad by Avicenna; by Bontius, by Paisley, by Girdlestone, by Curtis, and innumerable modern observers, in India and China. I believe, in short, with Mr. Jamieson, the able author of the Bengal Report, that the disease which has of late created such a wide-spread panic throughout the world, is, to use his words, "*unquestionably* the cholera morbus of Sydenham, the cholera spontanea of Sauvages, the spasmodic cholera, cramp, or mort de chien, of Curtis," and, I may add, of Girdlestone and of Johnson. The phenomena differ indeed in intensity in different cases, but absolutely the diseases are not more distinct than the variations presented under varied circumstances by many other pathological states of which the essential identity has never been disputed, and which are ranged under the same denomination, although the discrepancy of their symptoms may be considerable.

It is not, however, by any means my intention to lay down as a postulate this proposition as to the identity, or rather similarity, of the diseases we are discussing, but to demonstrate its truth in such a manner as will, I trust, satisfy your minds on this head, by a careful comparison of what I consider the two great varieties of the malady. My plan is, first to review the knowledge we had of the subject before the attention of the public was recently so strongly drawn in that direction, and afterwards to give an outline of the phenomena detailed in the able and elaborate treatises of our contemporaries. Although I may personally be persuaded that the various cases described by different authors are merely modifications or aggravations of the *same* morbid influence, I still think this detail necessary, to enable you to do full justice to the subject of cholera in general.

In drawing our comparison, however, we must take care to make due allowance for the different modes of description observed by ancient and modern writers on medicine. The former were in the habit of simply enumerating a certain series of symptoms as constituting a certain disease; and, if another series followed, they viewed the latter as a new production, and held that, under such circumstances, the original malady was succeeded accidentally by another. The modern describer, on the other hand, holding before him a constant reference to its pathological essence, classes as constituent parts of a disease, the contingent, as well as the constant circumstances that attend it, and ranges under one denomination all the symptoms and accidents which the advanced state of the philosophy of medicine enables him to trace upwards to the same internal cause. It is important that we should not in our study of the older writers mistake such a difference in their mode of depicting a disease, for an essential difference in the disease itself, because other characteristics are seized upon by modern describers.

Having premised this caution, I will proceed at once to give you a description of the old cholera morbus, as it was known to practical observers many generations before the vulgar epoch of its birth in 1817.

In the works of Hippocrates there is no systematic account of the disease in the abstract, but various cases are recorded by him as having occurred in the course of his practice, and sketches of the symptoms exhibited in particular individuals are presented to the reader. The most remarkable of these, is the case of Eutychides, mentioned in the fifth book of the Epidemics, who not only had incontrollable vomiting and purging, with convulsion of the muscles and prostration of all the vital powers, but that symptom, too, of which much has been said as characterising and distinguishing the present from all previous epidemics is particularly mentioned, —I refer to the deficient secretion of urine— *κάι τοῦ ὄυρου πολλὴ σχέσις*. The case of the man attacked with cholera at Athens, (*'Αθήνησιν ἄνδρα χολέρη ἔλαβεν κ.τ.λ.*) nearer the beginning of the same book, is also described with concise picturesqueness and truth. Aretæus and Aurelian describe the disease more in detail than Hippocrates. The former is particularly distinct in the enumeration of symptoms of which it will be difficult to doubt the identity with those of the present epidemic, and well deserves a reference.* He says, that cholera is one of the severest of diseases, consisting of the most violent vomiting and purging, both of pituitous and bilious matter. What he means by "bilious," will be seen in the sequel. The liquids vomited, he says, are at first like water; the motions also are at first like phlegm, then bilious. The author then goes on to describe the constriction of the œsophagus and cardia; violent pain in the belly; contractions and twitchings of the tendons; convulsive spasms of the muscles; hiccup; blueness of the nails; coldness of the extremities. He mentions, also, that there is retention of urine from spasmodic contraction of the bladder, and that, besides, the secretion itself is wanting, and gives what is probably the true explanation of this want—namely, that it arises from the metastasis or derivation (μετοχετεύσεως, "conveyance by conduits") of the fluids to the bowels, from whence they are so largely discharged. The patient at length, he adds, loses his power of articulating; his pulse falls altogether; his attempts to vomit and to empty his bowels are fruitless, from spasm and exhaustion, until a painful and pitiable death releases him from his sufferings.

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* De Morbis Acutis, L. ii. c. 5.

Celsus[*] describes the disease in these words:—"Commune id stomachi atque intestinorum vitium videri potest. Nam simul et dejectio et vomitus est: præterque hæc inflatio est, intestina torquentur, bilis supra infraque erumpit, primum aquæ similis, deinde ut in eâ recens caro lota esse videatur, interdum alba, nonnunquam nigra, vel varia. Ergo eo nomine morbum hunc χολέραν Græci nominarunt. Præter ea vero, qua supra comprehensa sunt, sæpe etiam crura manusque contrahantur, urget sitis, anima deficit: quibus concurrentibus, non mirum est, si subito quis moritur." He also alludes to the low fever which often occurs as a sequela to the attack, saving that, though it may be advisable to administer purgatives, yet the system must be supported by generous diet—"alvum duci necessarium est: tum cibis vinoque utendum est."

The description of the disease as observed by Soranus, an Ephesian physician of great celebrity in the time of Trajan, is short, but sufficient to identify it. He describes it as "solutio stomachi ac ventris et intestinorum cum celerrimo periculo." Cælius Aurelianus, who has preserved the above, and quotes it as a definition of the disorder, adds a striking detail of the symptoms as witnessed by himself.[†] The disease itself he denominates "passio cholerica," and says it is characterized by the following phenomena:—"Præcedit frequenter stomachi gravedo atque tensio: anxietas: jactatio: vigiliæ; tormentum intestinorum cum sonitu, quem Græci borborismon vocant. Ventris dolor, et per podicem ventris fluor nihil relevans: ructationes fumosæ: nausea, salivarum fluor: gravedo thoracis cum membrorum defectu. Surgente passione jugis vomitus, et primo corrupti cibi, sicut frequenter occurrit, et humoris atque fellis flaridi: dehinc vitellis ovorum similis: tunc prasii, atque æruginosi: ultimo etiam nigri: ventris quoque turbatio cum dolore; et egestio vomitorum similis, hoc est spumosa et acerrima, cum frequenti delectatione vomendi. Crescente passione aquati atque tenuis liquoris fit egestio, et aliquando similis loturæ carnis. Feruntur etiam cum his humoribus plerumque subalbida desputa: sequitur etiam densitas pulsus, et articulorum frigus, atque vultus nigrore fuscatus; ardor atque sitis insatiabilis: spiratio celerrima, et contractio vel conductio membrorum, cum nervorum tensione, ac surarum et brachiorum. Præcordiorum etiam ad superiora raptus, cum dolore iliaco simili; aliquando etiam egestio ventris sanguinolenta vultus: in maciem atque tenuitatem deductus: oculi rubri: et in ultimo singultus." He adds, that in former times it was always considered so acute and rapid a disease "ut nunquam in secundum veniat diem."

Trallian[*] and Paulus Ægineta[†] give similar but shorter descriptions of the same disease; and Avicenna,[‡] the father of the Arabian school of medicine, enumerates the symptoms of collapse,—vomiting of white bile, spasms with cold sweats, loss of pulse, and so on, as described above from Aretæus and Cælius Aurelianus.

It would be easy to multiply quotations from all who have taught our art to successive generations; but as they merely cite more or less in detail the words of the original observers already mentioned, they may be viewed as a chain of testimony formed of many similar links, the description of one of which suffices to represent the whole. Their observations are also rendered less valuable by theoretical speculations on the hidden causes of phenomena, and a false physiology, in which they indulged: we will pass therefore onwards, to times when the more manly tone of human intellect, as embodied in the philosophy of Bacon, makes us feel that the evidence of each recorder is derived from the unbiassed use of his own senses. The account of the disease by Sydenham is in every body's hand. It is characterized, he says, by immoderate vomiting and discharge of vitiated humours from the bowels, with great difficulty and suffering; by violent pain and distension of the abdomen and intestines, heart-burn, thirst, heat, and anxiety; a small and irregular pulse, colliquative sweats, contractions of the limbs, faintings, coldness of the extremities, and other similar symptoms, which greatly terrify the attendants and destroy the patients in twenty-four hours.

It is true, Sydenham does not mention that this complaint was attended or followed by low fever; but how many descriptions are there of true Asiatic cholera, as it is called, which make no mention of the fever? This omission can hardly be urged as an objection to the opinion that the diseases are at least closely allied to each other in character.

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[*] Lib. iv. cap. xi. (Bipont).

[†] Cælii Aureliani de Morbis Acutis. L. iii. cap. 19 and 20.

[*] Alexandri Tralliani de Arte Medicâ. L. vii. c. 14.

[†] B. iii. §. 39. Oribasius and Actuarius closely follow Paulus.

[‡] Avicennæ Canon. Vol. i. p. 812, Edit. Venet.

Perhaps, however, the most satisfactory proofs of the existence of a disease identical with that which is now raging in the north of England and south of Scotland, and in a minor degree in this metropolis, are afforded in Dr. Morton's celebrated treatise on fevers. That physician practised in London at the end of the 17th century, and describes very fully the epidemics which were common about 1680, and the following years. At that period diseases of an intermittent type, and others arising from miasmata, were those which ordinarily affected the inhabitants of this city. Among them he distinguishes one variety of fever which he properly calls *proteiformis*, and says it is often so obscure in its outset as not to be discoverable by any of the ordinary signs: "ut neque ex urinâ, temperie, pulsû, vel alio quocunque solito modo distingui possit; verum sub larvá algoris funesti; vomitionis indesinentis, diarrhœæ torminosæ, choleræ morbi, colicæ ventriculi,—apoplexiæ, syncopis, spasmi universalis vel alterins morbi secum delitescens medicum à scopo suo non raro abducat." His description is, indeed, a most valuable illustration of our present position, inasmuch as it distinctly recognises the fever which so often accompanies the epidemic of the present day, and yet is so often obscured by the strange disguises under which its features are concealed; which phenomenon has been fallaciously brought forward as an argument to prove the cholera an entirely new disease in Europe, and as distinguishing it from all former epidemics indigenous or derived from local miasms.

It is unnecessary to repeat the whole of Dr. Morton's statements respecting the virulence of the disease, and those characteristic symptoms which identify it with the epidemic of the present age, but it will be satisfactory to quote some of the more striking passages which bear on these points. In his general description he says[*]: "Sic ubi præ gradu veneni spiritus adeo perculsi sunt, ut a primo ictu sese iterum nullatenus expandere valeant, algor qui primum horum paroxysmorum insulsum comitari solet, eoùsque protrahitur, donec æger deliquiis frequenter recurrentibus confectus tandem fatis cedat. Intereà remedia intus vel extra ad flammam vitalem resuscitandam incassùm applicantur; febris autem nullo indicio ex urinâ, temperie vel pulsu accuratissimo observatori sese prodit." Again: "Æger præ atroci dolore perpetuo alget, atque deliquiis, frequentibus suffocationibus et vomitionibus fatigatur sine aliquâ notâ febris evidenti: sine pulsû moribundus jacet."

To his general description Morton adds many examples of this affection as connected with endemic fevers of various types, an attentive perusal of which will amply repay the reader. It will be sufficient for our present purpose to add to the quotations already made from the work, two more; one, selected on account of the mention made in it of that blackness of the skin and cadaverous coldness which are now vulgarly asserted to be unprecedented in the fevers or cholera of this country; and the other, for the slowness of pulse recorded, in which it resembles some of the Asiatic cases.

The first is that of a gentleman named Amblar, a thin valetudinarian of 50, who lived at Mile End. He was subject to attacks of intermittent fevers from slight exciting causes. After exposure to cold and wet on the Thames, he was suddenly attacked with a violent rigor and trembling, "quibus successit," in the words of Dr. Morton, "algor universalis, quo durante, pulsûs vibratio vix percipi potuit: vomitione, dejectionibus (sicut in cholerâ morbo), affatim lacessebatur. Pharmacopola advocatus stragulis multis impositis ac bolis cardiacis, atque julapiis cordialibus exhibitis, flammam penè extinctam resuscitare, atque reliqua dicta symptomata corrigere totâ nocte incassùm tentavit. Manè enim sequente, ego accersitus inveni faciem planè Hippocraticam, totum corpus instar glebæ frigidum et madore perfusum, cutim, præ sanguinis congelatione, nigredine tinctam, vires perpetuâ ægritudine ac evacuatione bilis diversicoloris per os, et cremoris fœtidi albescentis per anum penè exhaustas. Appropinquantem mortem omnia ostendebant. quippe principium vitale, seu spiritus animales à veneno adeò deprimebantur, ut sese iterum expansaros spes non esset,"—and indeed, in spite of some apparent relief from the remedies prescribed, the patient did not survive the day of the seizure. The other instance which I will extract from Dr. Morton's valuable casebook, is that of our author's colleague, Dr. Grear,[†] "qui postquam sese horis matutinis, injuriis aëris, post intensum frigus præcedens mox regelantis, incaute exposuisset, spasmis adeo atrocibus et horrendis totam pulmonum et diaphragmatis regionem occupantibus decrepente corripiebatur uti inde anhelosum, et ad deliquium usque pressum, velut illico animum efflaturum, sedentemque eum invenerim, decumbere enim nullatenus poterat; extrema frigebant; urina erat tenuis et clara; vibratio arteriarum tarda et oppressa, atque per plura momenta nedum explorando perceptibilis; ferè per quadrantem horæ attonitus, stertore quasi apoplectico afficiebatur." I would wish to draw your attention to the clearness of the urine in this case—a circumstance also mentioned as sometimes occurring, in the Madras report, page 29. We can hardly doubt that the different descriptions just referred to are delineations of the same disease whose genealogy we are now going to trace down to times nearer our own. Dr. Tallmann, who practised at Püllna in the latter part of the 18th century, has left us one of the most distinct and striking histories of the subject of the present inquiry which is anywhere extant. He is, I believe, the earliest author who has recorded, as a premonitory symptom, that uneasiness of the throat, accompanied by eructation, which has been latterly also observed. This is followed, continues our author, by heat alternating with rigors, by universal languor, lassitude, gripings, constriction of the præcordia, nausea; upon which, as the disease advances to the next stage, supervene in a sudden manner vomiting and the most violent purging. In a short time, he says, the pain in the abdomen becomes more intense, an incredible anxiety and painful thirst come on, whilst the inflation of the belly, and the nausea and tenesmus, even in the intervals of vomiting and purging, become most distressing. The patient is sleepless; the pulse grows very frequent, small, and unequal; the urine is often suppressed; the mind unsteady. In a more intense form of the disease, the thirst is much exasperated; the præcordia suffer extreme constriction; the tormina, with perpetual vomiting and purging, increase; the patient is exhausted, and his body has a shrunken, corpse-like look (cadaverosum, macilentum).

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[*] Pyretologia. Exercit. 1ma. cap. ix.

[*] Historia Prima, loc. supra cit.

[†] Cap. supra cit., Historia, xiii. ad finem.

There is, moreover, constant inquietude and restlessness, which aggravates (I cannot do better than translate literally) the ineffable prostration of his strength; the eyes become misty and hollow; the spasms of various parts cause the most excruciating pains; the nails become blue, the extremities cold, and the whole body is affected with rigor; cold sweats break out, especially on the forehead; the attempts to vomit are fruitless; the heart falters; the pulse, almost imperceptible, is fluttering and unsteady; till at length hiccup comes on: the patient, now in his last death struggle, lies with a pale and bloodless face, and closes this sad scene with a dissolution full of agony.[*]

Such, then, is the picture of a disease well known in South Germany at the end of the 18th century; and if, as will be seen in the sequel, it has all the prominent features of the present epidemic, the position that the latter is a new disease in Europe at the commencement of this generation, must fail altogether.

I have designedly selected only the descriptions authenticated by names of popular celebrity, to illustrate my conviction of the prevalence of cholera in Europe in former times as well as in the current century. The testimony of others of old date might have been added—of Riverius,[*] of Boerhaave,[†] of Willis,[‡] and a host of minor authorities of more recent times, might have been cited to prove our point. But it will suffice to take the evidence of our own contemporaries and countrymen. It is well known that Dr. Armstrong described cases similar to those witnessed during the present epidemic as having occurred at Shields, and the neighbouring districts, in 1817, under the head of congestive typhus; and that Mr. Hennen, in his Medical Topography of the Mediterranean, records the ravages of a most fatal cholera at Cephalonia in the years 1816 and 1817, destroying three out of four of those attacked by it: besides which, testimonies are every day offered by intelligent and respectable physicians as to their familiarity with this complaint in the very districts where it is now said to be first discovered.

I will now, from the multitude of lucubrations on the subject of the present epidemic, endeavour to arrange in as simple a form as possible a consecutive description of the disease as it is now occurring amongst us. And I may here be allowed to say, that originality of observation, or a display of ingenuity by novel suggestions, are far from my mind; my only desire is to lay before you such a view of the subject, derived partly from my own experience, and partly from that of others, as may lead to simple notions and a rational method of treatment.

For convenience of arrangement, as well as because its pathology can be best developed in this way, I will divide the disease into three stages. The first, which is perhaps more properly a premonitory period than a part of the attack itself, may be thus described:—Its approaches are often exceedingly insidious, and, like those of fever, occupy, in different instances, very different portions of time. The first invasion, indeed, can rarely be detected, except by those who have by habit become very familiar with the physiognomy of the enemy. To an eye thus educated, the patient will exhibit more or less of an earthy hue, a muddy shade in his complexion, with a peculiar expression of anxiety in his countenance. If closely questioned, though he may not have previously made any complaint, he will allow that he has for some time been unaccountably depressed, and has had a variety of uncomfortable sensations in the stomach, with nausea and griping in his bowels; it will be observed, also, that his perceptions are rather dull, and his hearing somewhat impaired; this partial deafness being seldom wanting in any case. His pulse will be found frequent and small, his tongue whitish, his skin cold, especially in the extremities, and his nails blue. He will have had one or two sudden and copious evacuations, unnaturally fetid, but still excrementitious, giving a feeling of the whole intestinal tube being emptied entirely and simultaneously.

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[*] Tallmann, in Stollii Dissert. Med. vol. ii. p. 47, et seq.

[*] Prac. Med. L. i. c. i.

[†] Inst. Acad. § 810.

[‡] Pharm. Rat. vol. i. p. 3.

Now during this period it is evident that the power of hepatic and intestinal secretion, though disordered, is not abolished, as we shall see is the case in the second stage.

At this point the countenance becomes more and more haggard, the eyes sink in their livid sockets, the lips are ghastly blue, the features shrunken and wrinkled. Vomiting now commences, the deafness is exchanged for tinnitus aurium, the pulse becomes thready, the skin clay-cold, the tongue is still white and moist, but the crust is thicker than before; there is much thirst, with a burning sensation at the pit of the stomach: the urine is not passed—indeed, is not secreted; and the fluid, which is freely ejected both from the stomach and bowels by vomiting and purging, is no longer either excrementitious or alimentary, but is described as either homogeneous and almost limpid or turbid, like water in which rice has been boiled, with shreds of white or yellowish matter floating in it.

In the third stage a new feature presents itself in a great majority of cases, though it is occasionally absent altogether, and that, too, even when the disease has been sufficiently intense to destroy life: I refer to the spasm or convulsive contraction of the muscles—a phenomenon which seems to indicate that the morbific agent which had hitherto confined its influence to the digestive canal and accessory viscera, at this period has extended them to a new system of organs, more remote, physiologically speaking, from the vital powers—viz. the instruments of external life. The spasms usually commence in the hands and feet, and proceed up the limbs towards the trunk, but do not always reach it. In some cases the abdominal muscles are early and exclusively affected; in others the muscles of the face are the first to suffer. The eyes and whole face grow, if possible, more corpse-like than before; the skin often covered with a cold sweat, and looking as if it had been macerated in water.

The discharges from the stomach and bowels are by this time very irregular, and sometimes cease altogether; the pulse at the wrist is no longer perceptible, the breathing is slow and oppressed, the air which comes from the lungs cold, the voice inaudible, and though the heat, as measured by the thermometer, is much below the healthy standard, the patient complains of burning heat: hiccup now comes on, and the sufferer, after lying for a short time in a state alternating between restlessness and oppression, now half stupid and now possessed of perfect intellectual consciousness, soon ceases to struggle against the fatal poison.

Though, for the convenience of description, I have divided the progress of the malady into distinct stages, it must be understood that very great variations are observed in the mode in which individual cases pass through these stages. In one instance the first is distinct, whilst the other two are confused together; in another the last is the most clearly prominent period, and supervenes suddenly on slightly-marked symptoms. Again, the three periods will at times be found merged in each other so completely as to baffle all attempts to connect the case pathologically with those of the same class, were we not assisted by the occurrence of more distinct instances in other persons attacked at the same time and under the same circumstances.

So, also, the length of the attack varies as much as the order and intensity of the symptoms. Sometimes the disease may run on for days; in other cases the sad catalogue of agonies we have enumerated may be gone through and closed by dissolution in a couple of hours. As a rough average, however, sixteen hours has been fixed on as the duration of the contest between life and death.

Whilst speaking of the anomalies which occur in the disease, I will quote a paragraph from Mr. Bell's work, showing how extraordinary and various they may be. He says: "Cases often occur in which one or more of the above-detailed symptoms do not appear. There may be no spasms, the vomiting and purging may cease, or there may have been only one large alvine discharge, followed by a mortal collapse, the patient seeming to be at once struck with death; and though, on the very first appearance of the disease, he has walked to the surgeon, his pulse is found to be gone, his heart has ceased to beat, blood can only be got in drops from his veins, he lays down his head, and dies without a complaint."

Such, then, is the pure Asiatic cholera morbus, or "cholera asphyxia," as it has been proposed to name it, of the Madras Medical Board.

The appearances after death are pretty constant, and are as follows:—The corpse is emaciated and shrivelled; the surface livid. The abdominal veins are gorged with blood of a very dark colour; the bowels feel soft and pulpy throughout; the liver and spleen have a purple or mottled appearance. The intestinal canal when opened is found filled with a fluid like that which, during life, had been discharged from it. The mucous membrane of the stomach and duodenum is studded with patches of ecchymosis, which appearance is not unfrequently observed in other parts also of the alimentary tube.

The large veins of the mesentery, as well as those of the bowels, are seen gorged with dark blood, which, indeed, in no place is to be found properly decarbonized. The gall-bladder is usually distended with dark green bile. Of the urinary organs, the kidneys take the character of venous congestion, and the bladder is empty and contracted.

Turning to the thoracic viscera, we find the lungs of a dark colour, from the intensity of the venous congestion, which pervades their structure also: indeed, so universal is this condition of the vital fluid, that not only the left side of the heart, but even the aorta itself and the carotid arteries, not seldom contain venous blood.

The brain presents the same deficiency of arterial, and repletion with carbonized blood, which characterise other viscera.

In some cases serum in small quantities has accumulated in the ventricles and between the membranes of the brain, medulla oblongata, and spinal marrow, and the minute vessels are more visible than usual. This apparent extra vascularity is not a constant occurrence, and cannot therefore be justly viewed as a cause of the disease; and, where it appears, would seem to be a secondary and accidental consequence of the morbid state of the sympathetic system which disposes all the viscera to venous congestion.

Those who recollect the description I offered you in my former lectures, of the cold stage of intermittent and remittent fevers, will have no hesitation in allowing the extraordinary similarity between the symptoms just described as belonging to cholera, and those which have been enumerated as characterising the severer forms of such fevers. They will also see that the diseases approach one another no less strikingly in their post-mortem appearances than in their phenomena during life. I would not call them identical, but nearly related to one another. This relation is shown by a circumstance of no very uncommon occurrence. Although generally, when the symptoms I have related have been passed through, and the patient survives, he is free from illness, yet cases are not rare where he has to pass through a regular attack of remittent fever, to which the deadly rigor of his cholera may be held to bear a similar proportion as the ordinary cold stage of ague bears to its subsequent periods of heat and perspiration. If we do not admit this relation, we shall have to suppose a fever of the bilious remittent species to be epidemic at the same time with cholera, and to commence with symptoms precisely similar, which does not appear to me such a rational mode of accounting for the facts.

Why should we not suppose the relation to be a constant one?—Why not explain the fact of the consecutive fever being wanting in some cases, by referring its absence to the remedies which have been administered, and which may have checked the incipient conflagration before it had burst into a blaze? I do not wish to rest in metaphors: the fact is notorious to all conversant with intermittent and remittent fevers, that they frequently stop short at the cold stage, in consequence of some violent commotion of the mind or body; and that, too, even when the commotion is artificially produced, as in the mind by some gross deception or childish superstition, or in the body by the administration of a purgative, emetic, or strong stimulant. Why should we not suppose the same to be possible in cholera?

In the farther pursuit of the subject, it is advisable to pass in review some questions as to the proximate cause or pathology of cholera. Is it a local or a constitutional disease? Is it seated primarily in the blood-vessels and their contents, or in the nervous system?

The descriptions we have just completed are direct evidence that it does not belong to any one organ exclusively, inasmuch as we have seen that every normal secretion and excretion of the body is suspended by it. In the matters rejected by the mouth or bowels there are none of the healthy or ordinary unhealthy constituents of the fluids formed by the liver, pancreas, or mucous membrane; no saliva is produced by the glands proper to it; no tears moisten the eyes; no carbonic acid comes from the lungs; no animal heat is evolved throughout the body; the kidneys make no urine; the skin throws off none of its necessary exhalation: yet, in spite of these evidences of its being a constitutional disturbance, there are some functions which appear to enjoy an immunity from the commotion which is reigning throughout the rest of the system. The intellectual energies are little, if at all, impaired; the respiration is almost undisturbed; and the voluntary powers, except when interrupted in the third stage by convulsions, are maintained in integrity. We must, then, if we take such a view of the nature of the disorder, make certain reservations in favour of the organs subservient to the functions unaffected. Now on this ground it has been argued with great ingenuity, and, I think, much probability, that the poison which generates cholera exerts its primary and principal influence on the ganglionic nerves, inasmuch as they are intimately connected with the secreting and circulating powers; while the intellectual force and the functions of respiration (so far as movement is concerned), and of voluntary motion, are not immediately dependent upon them.

I have been used to adopt the same reasoning to explain certain phenomena of continued fever, conceiving that the sanguineous accumulation which leads to the peculiar lesions of the bowels occurring in its victims, depended on the morbific poison fixing itself on the nerves of the solar plexus and sympathetic ganglia. In both cases I must be understood to speak of the symptoms referable to the primary agency of the exciting cause, for sooner or later is exhibited the connection which exists between all and several of the organs in perfect animals; and the other system of nerves becomes also subject to the deleterious effects of the commotion. In cholera the most familiar instance of this is the spasm which affects the muscles of the trunk as well as of the extremities.

I am inclined, then, to go along with those who adopt the above views, and will compendiously explain my idea of a pure and complete case of cholera. The nerves of the great solar plexus are affected with a transient but excessive excitement, which leads almost instantaneously to a failure of their powers; and this disorder of the abdominal system of nerves terminates often rapidly in the death of the patient, or, where the constitution is capable of standing against so terrible a shock, in his complete recovery. In a certain proportion, however, of cases, both with and without the agency of medicine, it would seem that the secondary affection of external parts, evinced by the spasms of the trunk and extremities, and the stagnation in the superficial capillaries, subsides after a time. The primary affection, also, of the ganglionic system is so far modified as to cause no longer the total failure of secretive power in the viscera dependent on it. It is so far modified that the extreme commotion of the structures supplied by these nerves subsides into a state of less disorder indeed, though still capable of giving birth, in the parts obnoxious to it, to painful, extensive, and often fatal lesions, *i. e.* the cholera passes into remittent fever.

I have hitherto scarcely touched on the changes which take place in the blood of individuals suffering from cholera. I have postponed this subject because, although much has been attempted towards the elucidation of these alterations in the vital fluid by this as well as other diseases, the results of such investigations have been not only indistinct, but often exceedingly contradictory. That the actions of the nervous system in health cannot be sustained without the assistance of wholesome blood, is as certain as that the metallic plates of a galvanic battery will convey no power to the two poles without the aid of the acid fluid. So, also, we may readily believe that, if the nerves are diseased or the blood depraved, or if both together are in a morbid state, the functions dependent on either must be very materially interfered with and impeded; and, of course, both must be set to rights before the disease can be said to be removed. So far it is not of any importance to decide which is the primary subject of the morbific influence. I am disposed, however, to lay the blame on the nerves, and for this reason: were the blood primarily affected, it would, from the continuity of its distribution, be equally depraved in every part, and disorder one structure as much as another. This, however, we have noticed not to be the case in cholera, where the ganglionic system is the one to suffer, while the cerebral system sometimes escapes altogether, and never, at least, is affected alone. But these are speculations: what we really know of the blood is, that it is of much darker colour, and of more viscid consistence, than natural, and that the free alkali of healthy blood is deficient in quantity.

Reviews.

The Nature of Cholera Investigated. By JOHN GEORGE FRENCH, M.R.C.S., Resident Surgeon to the Infirmary of St. James's, Westminster, &c. Pamphlet, 8vo. pp. 54. London: Churchill. 1835.

Hints on the Practicability of Contracting the Extension, and greatly Diminishing the Fatality of the Malignant Cholera, &c. By D. B. WHITE, late Physician to the Gateshead Cholera Hospital. Pamphlet, 8vo. pp. 40. Newcastle: Mackenzie. 1832.

IT is not often that we make our reviews retrospective, but such an exception to our general practice appears admissible in reference to medical essays on a disease concerning which there exists so great a difference of opinion. We have already noticed a collection of recent pamphlets on cholera, and we have now to consider two of more ancient date, which have been forwarded to us by the respective authors, doubtless to show that the views they took of the disease on its first invasion, have undergone but little modification.

Mr. J. G. French has at various times communicated to this journal the results of his experience respecting the probable nature, treatment, and mode of propagation of Malignant Cholera. His position, as surgeon to the Cholera Hospital of the extensive parish of St. James's, Westminster, furnished him with an ample field for observation, and he has here presented, in a concise form, the results upon which his views of treatment are based. Mr. French starts with the four following propositions :—

"1. That cholera depends on a deleterious influence exerted on the system ; in this respect resembling many diseases, as small-pox, and others.

"2. That the deleterious impression once made on the system, death may be immediately occasioned, either by its violence, or by its peculiar effect on the idiosyncrasy of the person attacked ; but that generally, a new and salutary process is established by nature for resisting its effects.

"3. That the manner in which nature effects a change of conditions necessary for the safety of the patient, is that of putting into requisition the extensive surface of the alimentary canal for the exudation of a large quantity of fluid ; thus rapidly diminishing the bulk of the blood, and effecting other changes in its nature, required by the necessity of the case.

"4. That any further phenomena remarkable in this disease, are either effects of this salutary process, or accidents not necessarily connected with it." (p. 4.)

Each of these propositions is successively examined in a logical manner. With regard to the first two, which deal chiefly with etiology, it may be sufficient to state that, in the opinion of the author, the cholera poison acts by inducing paralysis of the heart ; while the last two point to the means by which nature endeavours to counteract the effects of this poison. Mr. French observes :

"It has been attempted to establish the fact, that the *vomiting* and *diarrhœa* constitute the salutary process by which the fatal effects of the poison producing the disease are to be remedied ; and if this be true, then it is evident that, so far from digestion being a function necessary to a person affected with cholera, the digestive canal is in requisition for a purpose of a directly opposite tendency ;—that instead of elaborating fibrin for the supply of the blood, it is engaged in throwing off this substance from the blood ;—the bile can be of no service in this process, and nothing in the economy of nature is uselessly performed ; *bile is not, therefore, now secreted ;*—the gall-bladder, generally full, does not pour forth its contents to be wasted ; but the duct remains closed during the progress of the disorder, until, indeed, it can be usefully employed in the animal economy." (p. 21.)

....."Further study has taught the author that the cramps are directly beneficial, they assist in restoring the circulation, by driving the blood towards the heart. It is part of the history of cholera that epidemics most remarkable for this symptom have been less fatal that when this symptom has been most remarkably absent.—All those who practice venesection avail themselves of the influence of muscular pressure upon the veins, by directing the patient to press a stick with the fingers."—Vide a paper by the author, *Lancet*, Sept. 1842.

Mr. French is an advocate of the free use of cold water, a mode of treatment which has received considerable support from the observations of various practitioners, since the first publication of his pamphlet in 1832. Its advantages have been recently set forth by M. Blatin in a paper read before the French Academy of Medicine.*

"If the disease do not terminate in death, it may be considered at an end when the peculiar discharges cease ; for the phenomena which follow are to be considered as necessary operations for the establishment of reaction, or as accidents which, though induced by the disease, are yet not necessarily connected with it. The diarrhœa has now altogether subsided, and the bowels remain perfectly tranquil for an indefinite length of time : not so the stomach ; the vomiting continues, by its action driving forward the blood through the congested vessels ; the gall-duct, too, now permits of the flow of bile, which is generally in a vitiated state, and thus continues the action of vomiting till the circulation becomes re-established : a further flow of bile then gradually prepares the alimentary canal for a renewal of its proper function. During all this time, the inordinate thirst, so characteristic of the disease, continues ; a thirst which induces the patient to drink many gallons of water, and thus the process of reaction is materially assisted by absorption of water into the blood-vessels, as well as by nausea and vomiting, as will hereafter be more fully adverted to. The urine does not generally become secreted till from forty to sixty hours after the commencement of the choleric attack ; and it is often delayed for a longer period than this,—four or even five days sometimes elapsing before this secretion is re-established." (p. 27-28.)

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* See our number for Feb. 2, page 213.

With respect to the use of calomel, Mr. French agrees with Dr. Graves that it is contraindicated in the stage of collapse as much as diuretics, but when reaction has taken place, it may be beneficially employed.

> "In this condition we do not perceive any argument against its possible utility: stimulation of the secreting organs and of the absorbents, if this action be exerted, cannot be objectionable; and, indeed, he who has witnessed the states of inflammation which sometimes follow reaction, together with a peculiarly altered and viscid condition of the blood, which often attends a comatose condition of the brain at this period, would not fail to recognise in calomel a valuable remedy for anticipating and preventing these conditions from its known antiphlogistic and attenuating properties." (p. 42.)

The author is also, to a certain extent, an advocate of the use of emetics—a mode of treatment which has been within a recent period ably discussed in our pages in all its bearings, by Dr. Gavin Milroy.

> "There is, however, one condition of the system in which emetics seem peculiarly serviceable. It has been already said that the respiration is not essentially impaired, but that its abnormal condition merely results from the state of the circulation; but it sometimes happens that a true dyspnœa supervenes suddenly, the alæ nasi become flapping, and pain and distress are experienced in the chest: here we have witnessed the happiest effects result from the exhibition of emetics. When, however, vomiting is spontaneous, it appears to be always beneficial; nor does it appear to be less so when it is encouraged by the copious draughts of fluid with which the patient is induced to slake his urgent thirst." (p. 47-48.)

The pamphlet, which is highly creditable to the author, is concluded with three cases illustrating the good effects produced by the free use of cold water, and the adoption of the other rules suggested.

Dr. White's essay was, we believe, among the first publications containing the results of native experience on the cholera as it appeared in England. As physician to the Gateshead Cholera Hospital, he had good opportunity of studying the disease in its various aspects. It is remarkable as an illustration of the old adage, *nihil novi sub cœlo*, that this pamphlet of 1832 contains all the useful portions of the late notifications of the lay Board of Health of 1848. Dr. White thus early impressed upon his readers the necessity of medical treatment in the premonitory stage.

> "As a proof of the efficacy of this arrangement, I may state that, although within the district allotted to me, I have prescribed for upwards of a hundred patients labouring under the symptoms above alluded to, which usher in the disease,—and, although within its limits ten cases of cholera have occurred since my superintendence, all of them so preceded,—yet in not one of the above hundred instances did this disorder supervene, and in only four individuals was my assistance a second time required." (p. 9.)

Ablution he regards as indispensable.

> "I beg most particularly to enforce the benefit derivable from washing the whole body with warm water, and afterwards producing a genial glow upon the surface by friction with coarse cloths. I was induced to adopt this plan for two reasons:—First, from the known sympathy between the stomach and bowels, and the skin; and secondly, because I am of opinion that a strong infecting medium exists in the filth allowed to accumulate upon the persons of the poor, their clothes absorbing the noxious exhalations that float around in a contaminated atmosphere, thus presenting to the cutaneous pores, if I may so express myself, a perfect plaster of infection." (p. 11.)

The author is a strong advocate of the use of calomel and opium in frequent doses. He also advises the free use of cold water.

> "I have witnessed great reluctance to the administration of cold water when the thirst has been excruciating. I have always allowed it, in general slightly coloured with brandy, both in this stage and the succeeding one of collapse, and never saw ill effects result from the indulgence. I sincerely trust this prejudice will yield; for I have never seen gratification more intense than when this desire has been complied with. Nature's instinctive voice demands it, and science every day discovers how seldom she demands in vain.
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> "Hot bottles and flannels should be placed at the extremities, and bags of warm sand down the thighs and spine, when a feeling of chilliness prevails at these parts. As the evacuations begin to be restored, the dangerous symptoms abate. The calomel may now be ordered in diminished doses, and at longer intervals." (p. 18-19.)

When the stage of collapse has set

in, he considers that there is nothing preferable to calomel and opium, with warm injections. He is opposed to the use of emetics.

> "I have never seen a case in the collapsed stage in which emetics of any kind were indubitably serviceable; though I have witnessed some in which they were incontrovertibly mischievous. When the powers of vitality are sufficiently strong to generate reaction, the mustard may hasten that favourable crisis, which would, I imagine, have ultimately occurred without its use; but where death may take place from the slightest effort,—where the thread of life has been drawn out to the finest film,—how dangerous must be the experiment! depression must ensue. When this energy is wanting, all stimulants act alike, whether brandy, æther, opium, or oxygen gas; the pulse is excited for a moment only to sink, if it be possible, the deeper afterwards." (p. 21.)

The following remark is well worthy of the attention of those who are haunted with the idea that they have discovered a specific for this intractable disease.

> "The beneficial operations of nature are too often ascribed to the efficacy of a favourite antidote. This is one of the greatest evils of our profession. This it is that swells our list of drugs, and confers upon inert, and too often injurious medicines, a fictitious reputation. This it is that produces too often that improper interference which has rendered it a matter of philosophical speculation how far mankind may have hitherto been benefited by the labours of those whose pretensions were to heal." (p. 21.)

Although printed sixteen years ago, this pamphlet contains some useful hints; and it is much more practical in its details than some of those which have been recently published. To his essay the author has appended the reports of ten cases, selected from a large number which fell under his observation.

The London Journal of Medicine: a Monthly Record of the Medical Sciences. No. I. January, 1849. London: Taylor and Walton.

A NEW contemporary deserved an earlier introduction to our readers; but various circumstances have hitherto prevented us from noticing the new London Monthly Journal. The contents of the first number give a fair promise that it will not want supporters. It contains a series of papers on interesting subjects of practical medicine by Dr. Williams, Mr. Fergusson, Dr. R. Quain, Dr. J. Bird, Dr. Snow, and Dr. Golding Bird,—short notices of recently published works, and a digest of cases and observations selected from other medical journals. The selection reflects credit upon the editors, and we cannot perceive why, if Edinburgh supports a monthly medical journal, the experiment should not be equally successful in this metropolis.

Pathology of the Human Eye. By JOHN DALRYMPLE, F.R.C.S. Fasciculus I. London: Churchill. 1849.

THIS is another of the admirably illustrated series of works published by Mr. Churchill, which, in our judgment, surpass all that has hitherto been accomplished in the portraiture of disease. This fasciculus contains four plates, each having six representations of the eye in its various morbid conditions. The subjects delineated in the part before us represent *Chronic Ophthalmia, Tinea Ciliaris, Lippitudo Pterygium, Hordeolum, and Tumor Tarsi.* Mr. Dalrymple states that he does not intend to publish *a treatise* on diseases of the eye, but rather to exhibit them as they occur in nature, in a series of drawings, with such explanations as shall identify them with symptoms, and with the general treatment of the case. The work will not comprise *all* the diseases of the eye. In some of these, *e. g.* amouratic affections, drawings would convey no useful information. Other diseases are too familiar to require delineation, or too rare to afford, by representation, practical assistance. The author commences with affections of the eyelids and lacrymal apparatus; and after these will follow diseases of the eye proper.

The plates in the first fasciculus are drawn and coloured so as to present very perfect representations of the diseases to which they refer. While diagnosis is thus aided, there are attached to the description of each disease some practical remarks on treatment. The work is highly creditable to author, artist, and publisher, and deserves the patronage of all who take an interest in the progress of ophthalmic medicine and surgery.

Proceedings of Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

January 23, 1849.

J. M. ARNOTT, ESQ., F.R.S., PRESIDENT.

Case of Aneurism of the Axillary Artery.

By **HENRY HANCOCK**, Surgeon to the Charing-Cross Hospital.

THE subject of this disease was a bargeman, aged 34, who was admitted into the Charing-Cross Hospital in August last. The tumor presented all the ordinary characteristics of aneurism, and occupied the entire axilla, raising the pectoral muscles and clavicle. He assigned as the cause of the mischief the falling of a sack of beans upon him two years before. He was bled on admission, and a week afterwards the author placed a ligature on the subclavian artery, external to the scalenus muscle. The case went on favourably for a fortnight, when the tumor shewed signs of inflammation. At the end of three weeks the ligature came away from the artery, six days after which, the sac, which had suppurated, burst. Another opening was made lower down, which allowed the escape of a large quantity of offensive blood and matter. The wound made at the operation was then nearly healed. From this time he appeared to be going on well for ten days, when suddenly a gush of blood took place from the sac, and he expired in about three-quarters of an hour afterwards. A careful dissection was made of the parts, and the axillary artery was found healthy, except where it communicated with the sac. The divided ends of the artery were each closed by adhesive inflammation, and a plug of coagulum of about half an inch in length. Six branches were found proceeding from the artery between the part on which the ligature was applied and the opening in the side of the artery into the sac. From one or more of the largest of these it is the opinion of the author that the fatal hæmorrhage took place, the blood being thus brought backwards into the artery above the opening into the sac, and its impulse forcing out the coagulum which was interposed. The author makes some observations on the importance of the sac in all cases of aneurism, and introduces a statistical account of the result of operations for the cure of traumatic and idiopathic axillary aneurism, in confirmation of his impression that the ligature should be placed on the axillary artery itself "in all cases where the mischief can be traced to a direct injury, and where the size of the tumor admits of our reaching this vessel:" the risk of hæmorrhage would, he considers, be thus materially diminished, if not altogether obviated, in case of the sac suppurating, as in the present instance.

Mr. **B. PHILLIPS** said that one or two observations had occurred to him during the reading of the paper. Mr. Hancock had stated the results of the operation of tying the subclavian artery in cases of injury and disease of the axillary artery, and had compared this operation with that of placing a ligature on the axillary artery itself; and that the result of his inquiry and experience was in favour of the latter operation. Now it must be recollected, that in cases requiring ligature in this neighbourhood, the axilla frequently presented such appearances that the surgeon would scarcely feel justified in performing any operation below the clavicle; and this would explain, perhaps, the reason why this operation was so little resorted to. It was one, however, that surgeons usually recommended, when practicable; and Mr. Hodgson, if he had not said so much in words, had, by implication, given it his sanction. Dessault and Pelletan had also adopted the practice; therefore Mr. Hancock was in error in supposing he was recommending any novel mode of proceeding. The operation on the axilla was the rule, and not the exception, as Mr. Hancock had stated.

Mr. **B. COOPER**, who had only heard a part of Mr. Hancock's paper read, proceeded to make some observations, under an erroneous impression as to the meaning of the author. He was afterwards set right by the President as to what the paper really intended to convey. In consequence of Mr. Cooper's mistake, the observations did not apply, and we therefore see no object in recording the greater portion of his observations. We may, however, remark, that Mr. Cooper animadverted in rather strong terms upon the paper, supposing that Mr. Hancock had confounded traumatic aneurism of the axilla with simple wound of that vessel, and said that any surgeon would at once cut down upon the wounded vessel, and not think of securing the subclavian in cases of simple wound. In aneurism, he said that no surgeon would resort to the difficult proceeding of tying the axillary below the clavicle, when the much more easy operation of tying the subclavian external to the scalenus could be resorted to; for the former was not only a more difficult operation, but, in his opinion, offered no advantages with regard to the collateral circulation, in respect to the thyroid axis, nor as to the successful issue of the case.

Mr. **HANCOCK** had not formed his opinion solely on his own experience, but on a number of cases collected from the various European journals and works on the subject. These statistics were embodied in the paper.

He was surprised at the remark of Mr. Phillips respecting the opinions of Mr. Hodgson and other surgeons in regard to the operation in question. He (Mr. Hancock) had no recollection of any such statement in the works of these authors. Facts proved the inaccuracy of Mr. Cooper's assertion respecting the relative advantages of the two modes of proceeding, for in four cases of aneurism of the axillary, the result of injury in which that vessel itself was ligatured, they all recovered; whereas, in eighteen cases of a similar disease, from the same cause, in which the subclavian was tied, ten died, and eight recovered.

Mr. B. **Cooper** questioned the validity of the statistics just alluded to, and conjectured that in the cases in which the subclavian had been secured, it must have been the consequence of secondary hæmorrhage, for no one would surely resort to such an operation for simple wound in the axilla.

Mr. **Hancock** had expressly, as the paper showed, excluded all cases of mere wound of the artery, and had strictly confined himself to cases of aneurism. The cases enumerated in the paper were under three heads:—First, those in which the subclavian artery was tied for idiopathic axillary aneurism; secondly, those in which the subclavian artery was tied for traumatic axillary aneurism; and thirdly, those in which the axillary itself was tied for traumatic aneurism of that vessel. Of the first, there were twenty cases—ten recovered, ten died; of the second, eighteen cases—eight recovered, and ten died; of the last, there were four cases, all of which recovered. With respect to Mr. Cooper's observations regarding the thyroid axis, it might be merely observed that the branches of this axis had no influence on either operation.

Mr. **Erichsen** had paid some attention to the subject under discussion, and the result of his inquiries had been the formation of the very opposite opinion to that promulgated by Mr. Hancock. He might say that he agreed with the author in his definition of aneurism, and excluded all cases which did not come under that category. Now, in eight cases in which the subclavian had been tied above the clavicle for traumatic axillary aneurism, seven had recovered; and in four or five cases tied below the clavicle, all had recovered. He said it was necessary in these inquiries to distinguish between spontaneous and circumscribed false aneurism, as in the first the mortality was greater in an equal number of cases when the subclavian was tied. In the operation recommended by the author, it must not be forgotten that you run the risk of cutting off altogether the collateral circulation of the arm, and the probable consequence would be, gangrene of the extremity—a consequence which was not unusual. As to the relative difficulties of the two operations, there could be no comparison between those of the former and those of the latter.

Mr. **Hancock** denied the validity of Mr. Erichsen's statistics, and said that, as he had before remarked, he had drawn his conclusions from a much larger number of cases. With regard to the mortification, Mr. Erichsen had proved how futile was such an objection, for in his own four cases they all recovered.

Mr. B. **Cooper** would mention a case embodying a point of interest, not that it bore strictly on the paper, but because no writer on surgery had alluded to the accident he was about to detail. He had secured the subclavian external to the scalenus in a thin subject. The operation offered no difficulties whatever, but immediately the vessel was secured the patient was seized with a constant and continued short cough, which went on till he died. On examination, the phrenic nerve was found to be uninjured, but highly inflamed, as was its neurilemma. He said that unsuccessful cases were often more instructive than successful ones.

Mr. **Hancock** took the liberty of observing that the case just related was an additional argument in favour of the position he had assumed, inasmuch as in his operation the phrenic nerve would have been out of the way.

Observations on Scarlatinal Albuminuria, and a short notice on the sequelæ proper to that affection. With cases illustrative of both. By James Miller, M.D., Physician to the Western General Dispensary.

The writer prefaces his paper by a table, comprising 219 cases of scarlatina observed during the summer of 1848. In fifty-nine cases the scarlatina was followed by renal anasarca; while in ten cases, the latter affection occurred, unpreceded by any of the ordinary outward signs of scarlatina, the cases of renal anasarca, making altogether somewhat more than one-third of the whole. Giving a brief sketch of the prominent features of the renal anasarca following scarlatina, as it ordinarily occurs, and noticing the œdema of the face as a characteristic symptom, he divides the disease into four species, according to the intensity of the general symptoms, the absence or presence of dropsy, &c., and points to the relation observed to subsist between albuminuria and anasarca—namely, that the degree or intensity of the one is, as a general rule, in an inverse proportion to that of the other. The question whether renal dropsy succeeding scarlatina should be considered a sequela or not is then taken up. In accordance with he laws of the operation of the scarlatinal poison in the human economy, the notion of the kidney being involved among its primary actions, although usually second or third in the order of structures affected, is considered, and an attempt made to strengthen the supposition, by a detail of eight cases, in which there was direct exposure to the scarlatinal miasm, but which were wholly unpreceded by eruption, throat affection, &c., a rigor alone ushering it in with slight and short preliminary fever. Such cases the author distinguishes by the name of scarlatinal renum; and he includes also under that appellation the cases in which the kidney exhibits an equally intense morbid action, but in which the skin has previously been affected in a minor degree. He further supports his position by the known epidemic character of the complication, and its occurrence in families and groups of children, in accordance with the unknown law which stamps each epidemic with its special character from the commencement. The present epidemic is denoted as one essentially of a renal character, and the fact is remarked on, that former epidemics have been characterised by the partial, if not nearly complete, absence of renal symptoms. The conclusion of the paper is occupied by a few cases of inflammation of serous membranes subsequent to, if not consequent upon, the renal disorder of scarlatina. Such inflammations, described as among the secondary and tertiary direct effects of the morbid poison by most writers, are here viewed as more properly falling under the head of sequelæ, being indeed the proper sequelæ of the affection in question.

Dr. **Webster** said, that as upwards of 3550 persons had died of scarlatina in London alone since the 1st of July last, consequently, according to the ratio of deaths reported by the author, of one in seven, about 25,000 cases of this disease must have occurred in the metropolis, being the greatest epidemic of the kind which had been known for many years; and the epidemic scarlatina, at Florence, spoken of by Bonerius, occurred in 1717, upwards of 140 years ago.

Dr. **Snow** said he was of opinion that the kidneys were liable to be affected as well as the skin, tonsils, or mucous membrane in the first days of an attack of scarlet fever. In two or three cases where children died during the eruption, he had found the lining membrane of the pelvis of the kidney red and injected, and believed that the inflammation extended to the lining of the tubuli uriniferi. He considered that this first affection of the kidney, either by causing a desquamation of the epithelial scales, analogous to the shedding of the cuticle, or in some other way, led to secondary congestive disease of the kidney, which was the immediate cause of the anasarca, inflammation of the serous membranes, and other results. In those cases related in the paper in which the albuminuria and anasarca were supposed to be the first and only effects of the scarlatinal poison, he (Dr. Snow) considered that there must have been a mild attack of the fever some three weeks previously, which had been overlooked by the parents of the children,—an occurrence he had known to happen amongst dispensary patients.

Dr. **Miller** replied that he had had no opportunity of examining the kidneys during the eruptive stage of the fever. When death took place at a later period, after dropsy had existed, there was no redness of the pelvis of the kidney, but great congestion of the cortical substance, as shown by the mottled condition of the exterior of the organ.

Dr. **Webster** said that the author of the paper had confined himself to the pathology of the disease. At the present time, he thought it would have been desirable to have spoken of the treatment employed.

Dr. **Basham** was glad that the author of the paper had confined himself to the pathology of the disease, as he regarded it of the utmost importance at the present time. Every one must have been struck with the peculiar tendency of the late epidemic to be attended with dropsy. This sequence was so common, that he had thought it had occurred even more frequently than the author had stated. He considered that the dropsy depended on the effect of the poison of the disease itself on the kidneys. He related a case in which albumen appeared in the urine two or three days after the eruption of scarlet fever had disappeared.

Dr. **Stewart** thought that the dropsy must depend on some cause independent of the poison of the disease, or we should have it more frequently in one epidemic of this complaint than another.

The next meeting of the Society will be held on Tuesday, February 13th.

LIVERPOOL MEDICAL AND PATHOLOGICAL SOCIETY.

Jan. 11th, 1849.

Acute Enteritis treated by Tobacco Enemata—Recovery.

Mr. **Paterson** gave the following particulars of a case of this disease:—A strong, healthy, and temperate middle-aged man, had an attack of abdominal pain, for which he took brandy and water without benefit, and soon showed the symptoms of acute inflammation of the bowels—viz. extreme pain in the abdomen, aggravated by pressure, constant vomiting of dark watery fluid, and obstinate constipation. His pulse was

95, full and strong; he had great thirst, but the heat of the skin was moderate.

He was freely bled and leeched repeatedly, and took calomel and opium every few hours, with saline and oleaginous purgatives, but without any decided benefit: the pain was somewhat less; but the vomiting continued, and the bowels were not relieved. Several very large enemata (two quarts at a time) of soap, turpentine, &c., were administered in succession, but without any good effects upon the bowels; and purgatives liberally given also failed to relax them.

On the 3rd day of the attendance, the bowels continuing unmoved, intussusception was feared; and to prove its absence if possible, an enema containing fifteen grains of tobacco was given, but without effect. The next day it was repeated, and contained twenty grains. He felt faint, sweated, and almost immediately had a scanty light-coloured motion. Calomel and aloes, with henbane, were given in small doses every four hours. During the night the bowels were freely moved twice; and from that time his improvement was uninterrupted, and he has now quite recovered.

Operation of Cystotomy performed without the discovery of a Stone.

The following case was communicated to the Society by the gentleman by whom the operation was performed, but as he was not a member, it was read by Dr. Nottingham, to whom it was entrusted:—

An excitable young man, aged about 22 years, had the ordinary symptoms of stone in the bladder—viz. sudden stoppage of urine, pain, bloody urine, retraction of the testicle, and pain in the loins. He was sounded, and it was imagined that a stone of some size was found, and a day was fixed for the operation. A distinct sound of percussion was never heard, but the patient declared that he felt the stone distinctly moved. On the day appointed, several surgeons assembled, and sounded him; but whilst some thought they felt a stone, but were not certain, others were certain that they did; and others again were certain that they could not feel anything. The operation was therefore postponed.

After some days he became impatient, and said he would put himself under other advice if the operation was not performed; and eight surgeons having met, all felt satisfied that the sound had struck upon some hard body in the bladder, which was not easily moved, and the operation was proceeded with. The patient was put under the influence of chloroform. An unusually free hæmorrhage gave a little trouble, and on entering the bladder no calculus could be found. It was sought for, without success, by various surgeons present, for upwards of half an hour, and the patient was then removed to bed without having been conscious of the operation.

From that time he has not felt a single symptom of stone, and has recovered perfectly, though slowly, owing to the occurrence of two or three attacks of troublesome hæmorrhage. He never asked to look at the stone, and is perfectly satisfied with his cure.

In commenting upon this case, which was given to the Society with so much candour, it was generally concluded that the disease had been an instance of a gravelly deposit upon a fold of the lining membrane of the bladder, concreted by thickened and hardened mucus; in which case the impression conveyed by the sound would sometimes be present and at others absent, according to the dilated or contracted state of the organ. It was probably not a case of encysted calculus, because it could not be felt through the divided perinæum, either by the sound or the forceps. Dr. Nottingham mentioned the case of a young man who died prior to the operation for stone being performed. On a post-mortem examination, several polypi were found in the interior of the bladder, attached by small contracted peduncles. These, floating in the urine when the bladder was distended, had caused the symptoms of stone.

Rupture of the Investing Membrane of the Spleen.

Dr. **Burgess** laid before the Society the spleen of a young woman who had had a slight attack of fever, from which she was recovering, when she had a slight return of the febrile symptoms. She soon had severe pain in the back, with a sudden accession of alarmingly severe symptoms, accompanied by vomiting. Her appearance, from the invasion of the urgent symptoms, was that of a person dying from perforation of the bowels, or internal hæmorrhage, and she expired in a few hours.

Post-mortem.—The spleen was remarkably soft, and the investing capsule was detached over nearly three-fourths of its surface by an extensive apoplexy.

Dr. **Ramsay** remarked that the condition of the spleen was very similar to what is noticed in yellow fever. There was, however, no history of any previous intermittent fever in this case.

ROYAL INSTITUTION.

Friday, February 2, 1849.

On the Theory and Practice of the Production of Light.

Professor Brande gave a lecture on the Production of Light, which, although it did not bring forward any original views, was interesting from its numerous experimental illustrations, and from its rapid but clear account of the various recent improvements in the practice of the production of light.

The Professor first illustrated the two causes of flame—ignition and combustion:—*ignition*, when the illuminating substance being heated, gives light either with or without undergoing chemical change, as when iron-filings, platina wire, or powdered charcoal are ignited in a flame of hydrogen:—*combustion*, when heat and light are evolved from a chemical change, as when hydrogen, being burned, is converted, by its union with oxygen, into water; and alcohol, being inflamed, is converted into carbonic acid and water.

Among the combustible bodies exhibited, was a cheap mineral oil, obtained in the proportion of 80 per cent. by distillation from petroleum; in addition to which may be obtained 5 per cent. of a mobile inflammable liquid like naphtha, and 5 per cent. of a fatty substance called *paraffine*, well fitted for greasing railway wheels. Various methods were also shown of increasing the luminosity of gas, by the construction of burners so as to supply a large proportion of air to a small proportion of gas, and by the naphthalization of gas.

After stating that Sir Humphry Davy had long ago, in that room, predicted the possibility of applying electro-light to common purposes, Professor Brande produced an intense light by bringing two poles tipped with charcoal into contact. The light, though excessively intense, was irregular, not only from the contact being somewhat unsteady, but also from the fusion of one or other of the charcoal points. The electric ignition of a platinum coil was also shown,—dull in the common air but brilliant in vacuo, until it was interrupted by the fusion of the platinum. Supposing all the difficulties could be got over, it is unlikely that electricity can be produced so cheaply as to make that kind of illumination practically effective.

A more probable mode of cheapening the production of light is the decomposition of water; the illumination of the hydrogen thus produced being heightened by naphthalization, and the combustion maintained by a fresh supply of oxygen. This is, in fact, an improved form of the Bude light.

Professor Brande concluded his lecture by a few observations on the anatomy and chemical properties of flame. Among other experiments, he showed that the light of burning phosphorus acted like solar light, by producing a chemical change on paper prepared with the gallo-nitrate and iodide of silver; and that the Drummond light acted like solar light on colours. The monochromatic properties of the light produced by the combustion of common salt in alcohol were also pleasingly illustrated.

Correspondence.

SOME OBSERVATIONS UPON CHOLERA, AND THE MODE OF TREATING IT.

SIR,—Having been engaged in the treatment of cholera during the prevalence of that malady in this city and neighbourhood, I have ventured to transcribe from my notebook such facts as seemed worthy of remembrance in the cases which have come under my notice, and such modes of treatment as seemed, so far as I could judge, attended with beneficial results.

Originally intended solely for my own perusal, they have been cursorily written down, as they have been observed or suggested; and, in accordance with my own ideas, I have contented myself with noting facts generally, without drawing those arbitrary distinctions which nature never recognises, and experience perpetually belies.—I have the honour to be, sir,

Your obedient servant,
HERBERT MANFRED,
Student of Medicine in the Royal Infirmary, Glasgow.

Glasgow, Jan. 25, 1848.

The violence of the vomiting and purging in the incipient stage of cholera is generally proportionate to the subsequent malignancy of the disease.

There is a marked tendency to the supervention of typhoid phenomena upon the cessation of the primary symptoms; probably owing to the suppression of the biliary and urinary secretions,—to the consequent retention in the system of effete and noxious matters, which in a state of health are continually being eliminated from the blood.

The cutaneous circulation appears to be all but arrested, and the blood consequently accumulated in the internal viscera.

The exhibition of opium is not indicated, unless spasms exist, or active purging and vomiting; or active purging or vomiting with heat of body.

The common salt emetic, repeated at short intervals, will be found the most convenient and the most useful that can be employed.

Envelopment in warm blankets, and warm applications to the feet, legs, and spine, are essentially necessary.

For the purging, enemata are more useful than any medicines given by mouth.

Cramps in the legs are best relieved by friction with opium, turpentine, &c.

Irritability of the stomach, and the excruciating cramps of the abdominal muscles, are materially alleviated by a large flannel wrung very nearly dry, out of hot-water, and moistened in laudanum and spirits of turpentine.

Dry frictions are very useful.

When the vomiting has abated or ceased, calomel combined with camphor should be immediately administered in pretty large and frequent doses. By these the hepatic and pancreatic functions would appear to be excited, and a more healthy condition of the whole intestinal canal thereby induced.

To allay the intense thirst and burning heat of the stomach, effervescing draughts, or whatever may be most agreeable to the patient, may be given *ad libitum* in small quantities.

The external heat applied to the surface should always be moderate, as too much external warmth would appear to exhaust the vitality of the whole frame, by exciting an undue and unnatural action on the enervated and carbonized blood. Nor will moderate artificial warmth be of any avail unless circulation be promoted, and vitality diffused by frictions, diaphoretic embrocations, or any other means that may suggest themselves to the mind of the practitioner.

In the consecutive fever, leeches will sometimes be found useful, and should be freely applied; and alterative doses of calomel, ipecacuanha, and colocynth, would seem to be indicated.

The patient's strength should be husbanded with all possible care, and he should never be allowed to rise up, far less to leave his bed, when the calls of nature require relief.

Stimulating enemata should be administered, to bring down the vitiated matters which stand in need of evacuation, after the immediate symptoms of the disease have been subdued.

The earliest and surest favourable omen of a case of cholera is the appearance of anything like fæcal matters in the dejections.

Difficulty of breathing, and suppression of urine, appear to be the worst diagnostic symptoms.

Cold affusions externally, and cold water *ad libitum* internally, would, by producing a reaction, be in all probability attended, under judicious management, with the most beneficial results.

Finally, in cholera the wisdom of the aphorism of Boerhaave is eminently conspicuous. Of the various remedial agents that have been employed, there is not one that can be fitly termed a remedy, and all the different medicines, generally speaking, which have been recommended in the treatment of the disease, will be more or less useful, as they are administered under the directions of a practitioner of more or less observation and judgment.

INSTITUTION FOR THE CURE OF CANCER.

SIR,—On consulting the late Dr. Denman's pamphlet on the cure of cancer, I find that he mentions the particulars of an Institution for the cure of cancer in Henry Street, Tottenham Court Road, of which Mr John Pearson was the surgeon. As it did not answer its purpose, owing to its not being at that time in as populous or convenient part of London, it was suspended. "When the accounts were settled," says Dr. Denman, "there was left a considerable sum of money, which now amounts to near one thousand pounds, three per cent. consols, in the hands of the Drummonds, and standing in the name of five trustees. Is it to be hoped that at some not very distant time, the sum so remaining may, by the additional subscriptions of the former governors, or by the general beneficence of the public, be applied to the support of a new establishment for the same laudable purpose." This was published in 1816, and dedicated to Sir Benjamin (then Mr.) Brodie, mentioning "the affectionate interest" Dr. Denman had ever entertained for him, and begging him to continue his researches on the structure and cure of cancer.

Have any of your readers knowledge of the disposal of this one thousand pounds? If still in the bankers' hands, it ought to be appropriated to the intention of the subscribers.—Yours obediently,

M.D.

Medical Intelligence.

SALARY OF THE MEDICAL OFFICER OF THE CITY.

AT a meeting of the City Commissioners of Sewers on Tuesday last, it was resolved, after some discussion, and as an amendment to a proposition, that the salary to be paid to Mr. Simon, as Officer of Health to the City of London, should be £500 per annum.

A SUBSTITUTE FOR THE MIDWIFERY FORCEPS.

WE understand that Professor Simpson has invented an apparatus on the principle of the vacuum-making organs of the cuttle-fish, which it is proposed so to attach to the presenting scalp of the child during labour as to render the introduction of the forceps unnecessary. A discussion on the subject was fixed to take place on the 7th inst.

LECTURES AT THE ROYAL COLLEGE OF PHYSICIANS.

THE Gulstonian lectures will be delivered by Dr. Gull, and commence on the 16th inst.; the Croonian, by Dr. Conolly, on the 28th; the Lumleian, by Dr. Todd, March 9; and the lectures on Materia Medica, by Dr. G. Bird, March 21.

ROYAL COLLEGE OF PHYSICIANS—ELECTION OF SECRETARY.

Mr. Bannister, M.A., was elected secretary of the College of Physicians on the 20th ult., in the room of Mr. Sedgwick, resigned. Mr. Sedgwick held the appointment during the last twenty years; he tendered his resignation to the College in November last.

THE CHOLERA AND LIFE INSURANCE.

Many persons of the better classes of society were attacked and died of cholera in Glasgow. It is reported, that by the deaths of three persons from this disease, one Insurance Office was compelled to pay on life policies to the amount of £12,000.

THE PROGRESS OF CHOLERA.

The cases and deaths during the last week have been so few that we consider it unnecessary to record them. We subjoin, however, our usual summary of cases and deaths up to the 6th inst.:—

	Cases.	Deaths.
London . . .	933	498
Provinces . .	825	362
Scotland . .	9260	4038
	11018	4898

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 1st February, 1849.—Oglethorpe Wakelin Barratt, Birmingham — Francis Turner Welby King, Melton Mowbray—Felix Weekes Richardson, Banbury—William Thomas Garrett, Woodforde.

OBITUARY.

On the 31st ult., at Grange Terrace, Brompton, Dr. George Fownes, F.R.S., Professor of Practical Chemistry at University College, London, in the 34th year of his age.

On Saturday, the 3d inst., at Hornchurch, Essex, Robert William Quennell, Esq., surgeon of that place, after a few days' illness.

On the 4th ult., at Madeira, Nicholas George Hobson, Esq., late of Great Marylebone Street, surgeon.

On the 20th ult., at Canterbury, in his 93rd year, Francis Dalley, Esq., M.D. He practised many years as a Physician at Stamford, in Lincolnshire.

Selections from Journals.

CONTAGIOUSNESS OF CHOLERA—ITS TYPHOIDAL FORM.

BY DR. FOURCAULT.

The British frigate "Topaz" touched at the Isle of France in 1829, and conveyed thither cholera, which spread rapidly throughout the island, prolonging its ravages for four months, sparing neither age, sex, nor rank, although the deaths were more numerous among the black population. No room was left for doubt that the disease had in this instance propagated itself directly by contagion. Six thousand individuals perished during the first six weeks of its appearance. When this ship arrived, the island was in a healthy state, and had been free from any epidemic illness for an unusually long period. The soil is volcanic, the climate mild, the thermometric range being from 38° to 80° F. The consecutive fever was of the typhoid type; and on this ground Dr. Fourcault distinguishes the disease which then visited the Isle of France from Asiatic cholera, by the name of typhoid cholera, and thence argues that cholera is never contagious except when combined with typhus,—a law which, he states, obtains also with regard to yellow fever and plague.

Dr. Fourcault, in reviewing the several theories which have been advanced to account for the spread of cholera, refers to the preceding instance as an exceptional fact, which rather confirms than invalidates his general conclusion of the non-contagiousness of cholera.—*Gaz. Médicale*, Jan. 6, 1849.

*** We do not here recognise the distinctly special character of this visitation; and it is to be regretted that no carefully recorded medical history of the cases which occurred, was made at the time. After so long an interval the accounts collected cannot be regarded as trustworthy. Of one fact only there appears to be no doubt—namely, that the disease was carried to the island by the ship.

X

PHARMACEUTICAL CHEMISTRY.

ON SOME PHYSICAL PROPERTIES OF COLLODION, AND ITS PHARMACEUTICAL APPLICATIONS.

M. Soubeiran, in experimenting on the contractility of collodion, found, by suspending a weight to a strip of silk gauze, and then moistening it with collodion, that as the latter became dry the gauze shortened by about one-sixth of its length.

The same experimenter observed that collodion is not completely impermeable to water. Having covered one end of a glass tube with a dry layer of collodion, he distinctly observed that water poured into the tube oozed through the pores of the collodion.

The extent to which collodion contracts during evaporation was shown by immersing in the solution a soft pill on the point of a needle; when dry, some of the pill-mass was forced out at the aperture formed by the needle. In some instances the covering of collodion was even split open from this point. A second layer of collodion prevented these effects, and in no way interfered with the medicinal action of the pill.

From its insolubility in water, collodion is better adapted for the manufacture of capsules than gelatin. Moulds of the required size and form, made of white wax, were fixed on the point of a needle and immersed three or four times in the solution, whereby they acquired the desired form on drying. The wax was removed from the interior, by placing the moulds, with the covering of collodion, on a perforated plate, the apertures in the collodion corresponding to the perforations in the plate. A moderate heat was then applied, and the wax melted and escaped. The same object may be obtained by using moulds made of a mixture of chalk and clay, and subsequently removing the mould by plunging them into diluted muriatic acid. If these moulds be first covered with a coating of gum arabic, the capsules are finer and more transparent.—*Journal de Pharmacie et de Chimie*, Dec. 1848.

ON THE ACTION OF THE PREPARATIONS OF IRON IN THE TREATMENT OF CHLOROSIS.

In France it is a common opinion, that in the treatment of chlorosis and other affections demanding the tonic powers of iron, those ferruginous preparations only are efficacious which contain the protoxide, or the metal itself, which in the stomach is converted into protoxide; further, that the protoxide must be united with carbonic acid or some organic acid that can be assimilated, as the citric or lactic; and lastly, that all the salts of the peroxide of iron, and all ferruginous combinations with the strong mineral acids, as the sulphuric, phosphoric, or muriatic, are not assimilated, and are only useful as astringents (Bouchardat, Gélis, and Conté, *Annuaire de Thérapeutique).* Mialhe maintains, and very justly, that clinical observation is altogether opposed to these conclusions, as is shown in the recognised value of such preparations as the subcarbonate and citrate of the peroxide the hydrated peroxide, and the permuriate of iron. On his part, he advances the following propositions:—1. "That all ferruginous preparations, soluble or capable of solution in the acids of the gastric juice, and susceptible of decomposition by the alkaliss of their carbonates contained in the blood, may be advantageously employed in the treatment of chlorosis." This includes all the preparations of iron in common use; as the pure metal, its combinations with oxygen, the chloride, bromide, iodide, and, without exception, all the oxisalts of iron. All these suffer decomposition in the blood, the alkalies of which unite with the acid, and the base is set at liberty. This is the property that, according to Mialhe, constitutes the essential condition of the tonic (or, to speak more precisely, "reconstituant") powers of a ferruginous preparation. As the theory indicates, salts of this class are slow to appear in the urine, and if given in small quantity, cannot, with one or two exceptions, be detected in that fluid.

2. "That none of the martial compounds, soluble or capable of solution in the acids of the stomach, but not susceptible of decomposition by the alkalies of the blood, can be of any service in the treatment of chlorosis." This class comprises only a few compounds; as the ferro cyanide of potassium, the sulphocyanide of potassium and iron, &c. These traverse the circulation unchanged, and soon appear in the urine.

We know that in chlorosis the constituent parts of the blood which are deficient are the iron and the blood-globules, and that these are promptly restored by a course of chalybeates. Whether, in producing this effect, the iron acts simply as a general tonic, or whether it is assimilated, and enters directly into the formation of the blood-globule, the present state of our knowledge does not enable us certainly to determine. The latter hypothesis is, we think, very probable; but Mialhe, without giving any satisfactory reason, assumes it as an established fact. The two arguments in favour of it are these: (1.) That the other general tonics have not the same effect as iron in chlorosis; (2) That those chalybeates which, from their nature, are detained in the blood, are the most efficacious.—*Edinburgh Monthly Journal*, 1848.

SURGERY.

CASE OF FRACTURE OF THE NECK OF THE THIGH BONE, &C.

Dr. N. W. Condit relates in the *New Jersey Medical Reporter* (April, 1848), a case of fracture of the neck of the femur occurring in a gentleman over 60 years of age. The accident happened in May, and the patient died in the following November. The following were the *post-mortem* appearances.

The muscles and all the structure about the cervix femoris were more pale than usual, and scarcely gave out any blood upon being cut into. The capsular ligament was entire, giving no appearance of having been lacerated: its texture was somewhat thickened. The ligamentum teres was in a state of vascularity, which gave it about the colour of the muscles around the joint, though it retained its wonted firmness and strength. The acetabulum was normal in appearance. The neck of the femur was shortened, and, on opening the capsule, the fracture was discovered wholly within it. The head of the bone had been broken across transversely exactly at its point of union with the neck, and about two lines from the bony edge of the acetabulum. The ridge characteristic of the seat of fracture had been thrown out, and the re-union was firm for rather more than three-quarters of the circumference of the bone. The limb having been drawn up by the contraction of the muscles, a considerable angle was formed by the head and neck at their point of juncture, but they were as firmly united by osseous formation as if they had never been separated. On the upper side, where the fractured edges were not in apposition, union was not yet complete, but ossification was going on upon all the broken surface, and had the patient lived a few months, would doubtless have been perfected. Could the state of the injured part have been by any means ascertained, and had not the condition of the ankle forbidden it, the patient, I think, might safely have walked: there was sufficient firmness at the fracture for the limb to have contributed its share of support to the trunk. From a fear lest some accident should befal the specimen in handling it, I left it with a mechanic to have the head protected by a covering of wire. He placed it for safe-keeping in a desk in his room, belonging to another man, who, removing the desk in his absence, threw out the bone, supposing it to be of no value, and though diligent search was made, it was not recovered. I had the preparation in my possession for two or three years, and during that time it was shown to many members of the profession, who expressed but one opinion, that it was a case in which *a complete fracture entirely within the capsule was reunited by ossification.*—*American Journal of Med. Sciences*, 1848.

TOXICOLOGY.

POISONING BY ARSENIC SUCCESSFULLY TREATED WITH CALCINED MAGNESIA. BY EMORY BISSEL, M.D., OF NORWALK, CONN.

Peter Galpin, a labourer, aged 27, a powerful and robust young man, of intemperate habits, attempted suicide on the evening of the fourth of March last, by taking arsenic. As is often the fact, he was prompted to the deed by those horrors and remorse of conscience which so often succeed a debauch. The quantity taken, as nearly as could be determined, was not far from a scruple. When I was first apprised of the fact, two hours had elapsed from the time it was taken. I hastened the messenger who came for me as quickly back as possible, with some thirty grains of sulphate of zinc—in two doses—with directions to administer it as soon as he could reach home, on horseback—distant about one mile—to give the second parcel in ten minutes, if needful. I followed as expeditiously as I could: when I arrived he had vomited freely twice, but without any relief. The family had given him copious draughts of a weak infusion of tobacco, which produced no other effect than to increase his sufferings, which at this time were extreme; so much so, that he begged me to kill him at once, if I could not end his pain in any other way. His pulse was one hundred and thirty per minute, small, and wiry. He complained of great constriction and dryness of the fauces, but chiefly of a most agonizing pain and burning in the stomach; it seeming, as he expressed it, "as if it were filled with burning coals." As nearly three hours had now elapsed since the poison had entered the stomach, I considered that any further effort to evacuate it would be futile, and that if life was saved at all, it must be by the antidotal power of some medicinal agent. Having had my attention directed to the experiments of Prof. Peter, of Transylvania University, and the case of Lepage, published in the January and April numbers of this Journal, in 1847, I determined to give the calcined magnesia a fair trial, and accordingly put it up in drachm doses, to be given every hour mixed in milk and water. During the hour which I remained with him, his symptoms were becoming more unfavourable. The pulse was one hundred and fifty per minute; the constriction and dryness of the fauces extreme; the whole surface bedewed with perspiration; the pain and burning sensation in the stomach seemed augmented to the highest possible degree, whilst the right hand was entirely paralysed: in short, everything betokened a speedy dissolution. I left him at ten o'clock, in charge of the mistress of the family, whom I knew to be an intelligent and faithful nurse. On visiting him the next morning, instead of finding him dead, as I much feared, I was most happily surprised to find him very quietly dozing in an easy chair. I learned from the lady, who had been unremitting in her care of him during the whole night, that in a very few minutes (not more than five or ten) after taking the first dose of magnesia, he said he felt much relieved, and before the time for the second dose, he had fallen into a doze. She stated that each successive dose had produced the most surprising and marked mitigation of every symptom, and that long before morning he was entirely freed from suffering, and had, on the whole, passed a quiet and comfortable night. The bowels had moved freely and easily twice during the time. He complained of nothing save a general weakness, and a sort of faintness at the pit of the stomach. The right hand had recovered its power, and the pulse had fallen to eighty-five per minute. Directed to continue the magnesia through the day, once in four hours, and to give light nourishment. On the sixth I made my first and last visit, as the young man seemed to require nothing but nursing, and a little time, for the recovery of his strength. I have since learned, that in a very few days he resumed his labour upon the farm, and felt no inconvenience from what he had taken, except a muscular weakness of the lower extremities, which was not very great. The case, in some of its aspects, much resembles that of Lepage, especially in the prompt and efficacious effects of the remedy, and the speedy recovery which followed. Should future cases yield results as gratifying as these two, we may indeed congratulate the profession in the possession of a sovereign and prompt antidote, always at hand, and easily administered, to the dreadful poison by which such numbers of our race have found a terrific and agonizing death. — *American Journal of Medical Sciences*, 1848.

BOOKS & PERIODICALS RECEIVED FOR REVIEW.

(The List will be given in our next No.)

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 29·95
" " " Thermometer[a] ...... 40·6
Self-registering do.[b] .... Max. 53·7 Min. 40·1

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 0·52.—Sum of the daily observations taken at 9 o'clock.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Feb. 3.

Births.		Deaths.		*Av. of 5 Win.*	
Males....	733	Males....	580	Males....	592
Females..	710	Females..	557	Females..	577
	1443		1137		1169

Causes of Death.		*Av. of 5 Win.*
All Causes	1137	1169
Specified Causes	1111	1164
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*..	346	221
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	33	54
3. Brain. Spinal Marrow, Nerves, and Senses	110	141
4. Heart and Bloodvessels	41	40
5. Lungs, and other Organs of Respiration	208	243
6. Stomach, Liver, and other Organs of Digestion	43	67
7. Diseases of the Kidneys, &c...	10	13
8. Childbirth, Diseases of the Uterus, &c.	9	9
9. Rheumatism, Diseases of the Bones, Joints, &c.	8	7
10. Skin	1	
11. Old Age..........................	52	73
12. Sudden deaths	20	14
13. Violence, Privation, Cold, &c.	21	37

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	23	Convulsions	41
Measles	17	Bronchitis	78
Scarlatina	62	Pneumonia	91
Hooping-cough ..	73	Phthisis	116
Diarrhœa	28	Dis. of Lungs, &c..	8
Cholera	37	Teething	10
Typhus	55		
Dropsy	10	Dis. of Stomach, &c.	4
		" Liver, &c...	11
Hydrocephalus	28		
Apoplexy..........	22	Childbirth	4
Paralysis	16	Uterus............	4

Remarks.—The total number of deaths was 32 *below* the weekly winter average. The cases of Cholera have undergone a considerable diminution, and the return indicates, on the whole, that the health of the metropolis is in a highly favourable state.

NOTICES TO CORRESPONDENTS.

Mr. G. B. Childs.—We must decline the insertion of the letter, as it would re-open a subject already sufficiently discussed.

Mr. Walter Fergus.—The case has been received.

"A First Year's Student."—We are not aware that there is any medal for proficiency in Medicine. An application to the Secretary will procure the desired information.

Mr. J. Jones.—We think that it is not equally efficacious.

THE GENERAL INDEX.

We have to announce to our Subscribers that a General Index to the *first* 40 *Volumes* of the London Medical Gazette will, it is calculated, form a large Volume of about 700 pages. The cost of the Index Volume, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. Wilson and Ogilvy, 57, Skinner Street, will receive the Names of Subscribers.

London Medical Gazette.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

By Bransby B. Cooper, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture XLIX.

DISEASES OF THE ORGANS OF GENERATION.

Genital organs of the male—partly external, partly internal—Diseases of the genital organs—Irritable state of vas deferens—Symptoms—Vesiculæ seminales—Diseases of the testicle—Inflammation or orchitis—Acute orchitis—Symptoms—Treatment—Rheumatic orchitis—Hardened testicle—Treatment—Chronic orchitis—Symptoms—Treatment—Modifying circumstances—Chronic abscess of the testicle—Granulations—their removal—medicinal treatment—escharotics—Cases—Atrophy of the testicle—Causes of atrophy—Treatment—Fibrous testicle—Its causes—Irritable testicle—Symptoms—sometimes only temporary—Treatment—Often more important—Affects general health—Extirpation of testicle—Examination of urine—Treatment—Tic douloureux in the testicle—Syphilitic orchitis—Difficulties of diagnosis—Treatment—Case.

MALIGNANT DISEASES OF THE TESTICLE.—*Medullary sarcoma, soft cancer similar to hard cancer, but occurring in different constitutions—Symptoms—Physical character—Course of the disease—Diagnosis—Treatment—Change of structure of the organ—Case.*

In the male, a portion of the generative organs are internal, and the others external, to the cavity of the abdomen: those within the cavity are, the prostate gland, the vesiculæ seminalis, and part of the vasa deferentia; while those that are external to it comprehend the penis, testicles, spermatic cords, and scrotum: every one of these organs is subject to diseases peculiar to itself, and it is therefore necessary that each should receive a separate description. Of the abnormal changes to which the prostate gland is liable, I have already spoken in a preceding lecture, but my remarks then referred to it rather as a urinary than as a generative organ: it is in the latter character that I now again return to it, as it is not unfrequently the seat of disease in consequence of its intimate connection with the vas deferens and vesiculæ seminalis; and, under these circumstances, it is the generative, and not the urinary, function of the organ that undergoes disturbance.

Irritable state of the vas deferens.—The vasa deferentia constitute the excretory ducts of the testicles: they take their course upwards from those organs, forming part of the spermatic cords, and, entering the external abdominal ring, traverse the inguinal canal, pass through the internal ring, and, being continued to the sides of the bladder, ultimately terminate in the prostate gland. At their extremities the vasa deferentia appear to be subject to a peculiar sensitiveness, sometimes leading to a train of symptoms by which the above disease can be recognised, viz. a deep-seated pain in the prostate gland, extending along the urethra, greatly increased in micturition, and becoming extremely acute during the emission of the semen, the aggravation of the pain lasting two or three days after coition. In this disease the uneasiness and pain usually extend along the vas deferens to the testicle, and this constitutes the principal diagnostic mark between it and disease of the prostate gland itself. Persons suffering under this peculiar irritation are very liable to nocturnal emissions, which, from their depressing influence, constitute one of the most distressing symptoms, and, indeed, is that which occupies so prominent a place in the mind of the patient, that he loses sight of the other symptoms, and the surgeon is only led to examine for the local cause by finding that tonics, cold bathing, &c. fail to check these involuntary emissions.

The great pain produced in passing the water often, however, induces the surgeon to introduce a catheter for the purpose of examining the state of the urethra: the passage of this instrument through the prostate increases the suffering, and a slight obstruction may be experienced on its entrance into the bladder. If these symptoms be not relieved, irritable testicle and spermatorrhœa usually supervene; but the original disease may almost invariably be cured by the application of caustic to the vera montanum. Lallemand has particularly directed his attention to the application of caustic in these cases, and has invented an instrument for this purpose: it consists of a canula, which is passed down to the obstruction offered by the irritated ducts, and a piece of caustic previously fixed to a rod passing through the tube is then pushed forward, and thus brought in contact with the seat of the disease. I have found in my own practice that the common caustic bougie answers the purpose equally well; but I

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cannot say that I have found the method of treatment has proved in my hands so invariably successful as Lallemand would lead us to suppose it has been in his own practice.

The *vesiculæ seminales* are but rarely attacked by disease, but they are sometimes found after death filled by scrofulous deposits of the cheesy matter so frequently met with in different parts of the body in strumous diathesis; but, where this condition exists, there are no symptoms developed during life indicative of the change that has occurred: this, however, probably arises from so little being known of the functions of the organ.

DISEASES OF THE TESTICLE.

Inflammation or orchitis.—This disease may occur either under an acute or chronic form, and may attack indiscriminately the secreting or excreting portion of the testicle. When the body of the testicle becomes itself affected, the attack arises either idiopathically or in consequence of external violence; but when the inflammation is seated in the epididymis it is usually a secondary effect, resulting from irritation in the urethra, and the extension of the disease along the vas deferens.

Acute orchitis is indicated by pain and swelling in the affected part, and a sensation of weight, which is greatly increased if the testicle be allowed to remain suspended by the spermatic cord, along which the uneasiness passes to the region of the loins. Nausea is also a very frequent concomitant of this complaint. Nor is this an inexplicable symptom; for it should be remembered that the spermatic nerves are derived from the greater and lesser splanchnic plexuses. As the disease progresses, the pain also increases to an intense degree, and the patient naturally assumes the recumbent posture, as the only one affording him any ease: the whole scrotum becomes inflamed and red, and constitutional symptoms begin to be urgent; the skin is hot and dry, the tongue white, pulse rapid, and a high degree of irritative fever developes itself. If the patient be of a full plethoric habit, blood should be taken from the arm; but it is more usual to employ leeches. In my own practice I always recommend cupping on the loins in addition to the leeches, taking away about ℥viij. of blood; and I have found, by experience, that the pain is relieved with much more certainty by this plan than when leeches alone are employed; I also generally employ the following as internal remedies:—℞ Hydrarg. Chloridi, gr. iss.; Pulv. Antim. Potassio-Tartratis, gr. ⅓; Pulv. Opii, gr. ½; M. Ft. pilul. statim sumenda. ℞ Magnes. Sulph. ʒiij.; Liq. Ammon. Acet. ℥j.; Liq. Antimon. Potassio-Tartrat. ʒiss.; Træ. Hyoscy. ʒiss.; Aq. Menth. Virid. ℥vij. M. Capt. Cochl. Larga. ij. quaque tertia horâ donec alvis bene responderit.

As a local application, I have also found the following lotion beneficial:—℞ Ammon. Hydrochlor. ʒiss.; Sp. Vini. Rect., Liq. Amm. Acet. aa. ℥ij.; Aqua Destil. ℥iv. M. Ft. lotio sæpe applicand.

If the inflammation be not subdued by these means, and the vessels of the scrotum appear to be congested, they must be opened with a lancet, and copious bleeding promoted by warm fomentations: the patient should be kept in a recumbent position, and made to abstain entirely from animal food.

Should the orchitis be concomitant with gonorrhœa, and the discharge have ceased or become much lessened upon the swelling of the testicle, its return must, if possible, be produced, and with this object warm fomentations should be applied, not only over the scrotum, but also to the perinæum and penis; and it will be generally found that if the discharge can be again brought on, the inflammation in the testicle will rapidly subside. Many surgeons are sceptical with regard to the metastasis from the urethra to the testicle in gonorrhœal inflammation, but I have frequently witnessed this phenomenon occur most unequivocally, and have myself no doubt whatever on the subject. When the discharge from the urethra is re-established, and the orchitis subdued, I believe calomel and opium (given every night) to be the most effectual means of preventing the return of the disease.

Persons who are subject to rheumatism appear to be especially predisposed to a peculiar description of orchitis which seems to attack the tunica albuginea: this form of the disease may be diagnosed, by its commencing without any apparent exciting cause, if we except the rheumatic tendency of the patient; the disease generally yields without difficulty to the administration of alkalies and a small dose of colchicum at bed-time. Individuals of gouty diathesis are also liable to a somewhat similar affection. I had a gentleman, a martyr to gout, for many years under my care, in whose case the attacks were frequently preceded by discharge from the urethra and swelling of the testicle, without his having subjected himself to the possibility of venereal infection.

It sometimes happens that after acute orchitis (whatever its origin may be) has been subdued, enlargement and hardening of the testicle still remains, unattended, however, by pain or uneasiness: the swelling is best reduced by the application of the following ointment:—℞ Ung. Hydrarg.; Cerat. Saponis, aa. ʒij.; Camphoræ, gr. v. M. ft. unguentum.

The ointment should be spread upon lint, strips of which should be laid smoothly over the swelling, and these confined by adhesive plaster applied so as to maintain considerable pressure upon the parts. Some practitioners have recommended pressure as the most effectual means of subduing the swelling from acute inflammation in its early stages, but I do not much advocate such practice, excepting as a secondary mode of treatment.

Chronic Orchitis.—This subacute kind of inflammation sometimes supervenes on an acute attack, owing to the antiphlogistic means employed not having being sufficiently powerful to overcome the disease, but merely moderating the symptoms. The complaint may, however, commence under the chronic form, especially in persons of strumous constitution. The symptoms are very similar to those in acute orchitis, but they are more indolent, and tenderness rather than pain is described as being experienced by the patient, the sensation of uneasiness extending along the course of the cord, and being not unfrequently attended by nausea. The mildest antiphlogistic remedies should alone be had recourse to when the disease has put on the chronic form, but if the veins of the scrotum be distended, two or three ounces of blood may be taken from them for the purpose of relieving the congestion, and I have known a good effect produced by applying cupping glasses to the loins, without however, drawing any blood, but only employing the action of the glass as a counter-irritant. The constitutional treatment consists in giving support to the powers of the patient, and if there be indications of a strumous diathesis, the iodide of potassium will be found useful. Sulphate of quinine is also an excellent medicine in such cases, and a nutritive diet and change of air tend greatly to the restoration of the patient. Gentle pressure upon the diseased testicle will sometimes promote the absorption of the adventitious matter, but care must be taken to effectively support the testicle by a suspensory bandage. In strumous chronic orchitis there is a tendency to the effusion of the unorganized cheesy deposit; it fills up the interstices of the tubuli seminiferi, and completely destroys the general appearance of the secreting structure of the testicle. This matter is sometimes found deposited in distinct tubercules, and sometimes pervading the whole substance of the gland, as well as that of the epididymis itself. Both testicles are occasionally affected at the same time with this complaint,—a condition highly indicative of a strumous tendency; in such cases the comparative absence of pain, the slowness of the development of the disease, the temperament of the patient, the absence of venereal taint, and the insidious manner in which the attack commences, are all points which enable the surgeon to form his diagnosis without much difficulty or uncertainty. The mode of treatment I have recommended may, however, prove insufficient to produce the removal of the disease, which may continue progressively to advance: if this be the case, the skin of the scrotum becomes red and swollen, although there is still but little pain: spots of ulceration through the skin become evident, pus issues from the openings, and *chronic abscess of the testicle* is established. Shortly after matter has escaped, granulations are thrown out from the ulcerated spots, and quickly run one into the other until a large mass of granulation results; this puts on very much the appearance of fungoid disease, although, in fact, there is nothing malignant in its character. Within the last forty years, extirpation of the testicle in this affection was common, under the erroneous idea that it was a malignant disease, but at present the testicle is never removed under such circumstances. Various plans have been proposed for the removal of the granulations,—caustic, excision, and ligature, have severally been employed, but in my own practice I have for the last eight or ten years given the preference to constitutional remedies, and although mercury may appear to be little indicated in these strumous affections, I have certainly found it very efficacious. The following is the form in which I administer it:—℞ Pil. Hydrarg. gr. iij.; Potass. Iodid. gr. iij.; Pulv. Doveri, gr. v. M. Ft. pilul. ij. nocte maneque sumenda.

At the same time that this medicine is employed, black wash should be applied to the surface of the granulations. My practice in this hospital[1] proves, gentlemen, that this plan of treatment has been very successful, and in private I have found it equally effectual. In some cases I have applied a ligature around the tumor to produce sloughing, but I prefer the medicinal means above described, as they improve the constitutional powers at the same time that they attack the local disease. When excision is performed for the removal of the granulations, the edges of the skin (which are very adherent to the base of the tumor) should be dissected off, and when the projecting granulations have been removed the skin should be brought together by suture. When escharotics are employed, sulphate of copper, nitrate of silver, and even arsenic, are sometimes made choice of, but I do not consider these merely topical applications of much avail, as they war against the symptoms only, and do not remove the cause of the disease.

The following cases will serve to illustrate and support this opinion:—Patrick Sullivan, æt. 22, a married man, of strumous and unhealthy appearance, by trade a tailor, was admitted into Guy's Hospital on the 5th June, 1841, with a large excrescence growing from the testicle. It appears that about ten days before his admission he consulted a medical gentleman, and a ligature was placed around the excrescence; but this occasioned so much pain and irritation that it was obliged to be removed: under these circumstances I considered it advisable to extirpate the testicle, but as the man was then in an unhealthy state, I thought it necessary that, previous to the operation, he should be placed under a course of medical treatment, particularly as there appeared about his person some eruptions, which created a suspicion of the disease having a syphilitic origin. He was accordingly ordered—Potass. Iodid. gr. iij.; Julep. Ammon. ℥iss.; M. Ft. haust. ter die sumendus. Hydrarg. c. Creta, gr. iij.; Pulv. Doveri, gr. v. M. Ft. pil. omni nocte sumenda.

In consequence of his peculiar idiosyncrasy, his constitution became rapidly affected by the mercury, and in the course of a few days he was completely salivated; for this he was treated in the usual way, with astringent gargles, and gentle laxatives; but, unfortunately, at this time an attack of erysipelas in the face supervened: acupunctures were freely made over the affected surface, and ammonia and carsarilla administered, warm water dressing being also applied to the face: under this treatment the patient rapidly recovered both from the erysipelas and from the effects of the mercury; and upon re-examining the testicle, which had been neglected during the more urgent affections, it was found to be quite cured, the whole excrescence having entirely disappeared. Tonics, with an occasional opiate at bed-time, were now ordered, to keep up his strength, and he rapidly regained his health, being presented, about the middle of July, perfectly cured.

In another case, an officer in the army called to consult me for a disease of the testicle, which he stated to have existed for more than two years. Although the pain was never very great, the constant irritation had produced a considerable diminution of the constitutional powers, and within a short time of his visit to me the patient had become much alarmed by what he described as the testicle "bursting and turning inside out."

I ordered him to take blue pill and Iodide of Potass., and to employ the black wash as a local application, also to restrict himself to the recumbent posture, and to use a somewhat generous diet. Under the influence of the blue pill his mouth soon became affected, and the granulations which were exuberant on the testicle subsided almost to a level with the skin; indeed, the improvement which took place was so great that I considered him nearly convalescent, and I consequently put a stop to the mercurial remedy, and though it advisable to substitute tonics. No sooner, however, had the ptyalism ceased than the granulations on the testicle again became profuse, and the patient complained of an uneasy sensation extending along the vas deferens to the urethra. Upon now questioning him closely for the purpose of eliciting the circumstances attendant upon the commencement of the disease, I learned that he had always had some difficulty in passing his water: this showed me that it would be proper to introduce a bougie to ascertain the state of the urethral canal. In passing the bougie I discovered a stricture in the urethra. I placed him under treatment for the cure of this, and during the time required to re-establish the normal condition of the urethra, the testicle completely healed.

A testicle which has once been subject to disease of the above kind is never after capable of performing its natural functions; and therefore, if any permanent sensation of uneasiness remain after the acute attack has subdsided, it is better that it should be at once extirpated.

Capt. P—, 33 years of age, a married man, of strumous diathesis, and of intemperate habits, came to consult me, and gave the following history of his complaint:—He stated that while riding in the Park, about twelve months before, his horse started, and threw him forward on the pommel of the saddle, giving him a violent blow on the right testicle: this produced a regular attack of orchitis, which was treated with leeches, warm fomentations, and the administration of aperient medicines. The acute inflammation of the testicle was relieved at the time by these means, but the organ itself remained very much hardened, and in the course of about three months the pain returned, accompanied by rigors, and an abscess formed in the scrotum, and discharged a large quantity of very offensive matter. This discharge continued for about six weeks, when he observed a granulating tumor protruding through the openings of the abscess. At the time this gentleman applied for my advice the tumor had attained the size of a hen's egg, the surface having a convoluted character, and being covered by a puriform secretion. I ordered the following prescriptions:—℞ Pil. Hydrarg. gr. v.; Potass. Iodid. gr. iij. M. Ft. pil. omni nocte sumenda. ℞ Hydrarg. Bichlorid. gr. j.; Ext. Sarsæ, ʒij.; Decoct. Sarsæ, ℥viij. M. Capt. Cochl. larg. ij.

bis quotidie. Black wash poultice being at the same time applied to the scrotum.

In a week after commencing these medicines his mouth became affected, so that I thought it best to diminish the quantity of mercury. An evident improvement in the diseased testicle also took place as soon as the ptyalism appeared; and by following this system of treatment, at the expiration of two months the patient was completely restored to health.

At the present time I have a patient in Guy's Hospital who is suffering from strumous chronic inflammation of both testes, threatening abscess. In this case the disease has been going on very insidiously, for the man states that the testicles have been morbidly enlarged for five or six years, and that he has not for a very long period experienced any sexual desire. It not unfrequently happens that this chronic inflammation becomes converted into

Atrophy of the testicle, owing to the intestinal absorption, not only of the scrofulous deposit, but also of the natural structures of the testicle itself. Atrophy sometimes, however, accrues as a primary defect, from arrest of nutrition, and may therefore arise from various causes: if it be congenital, the cause of the defective nutrition is inexplicable, and beyond the reach of medicine, and must, I think, be dependent upon malformation. I have observed in children who have been the subject of mesenteric disease, that the testicles are very slowly developed; but this perhaps arises from physical obstruction to the functions of the spermatic cord. It is said that the mumps (cynanche parotidea) often lead to wasting of the testicles, and also of the mammæ in young women, and this effect is attributed to a metastasis of inflammation. I have never in my own practice met with such a case, neither have I ever known wasting of the testicle to follow orchitis caused by the extension of inflammation from the urethra: when urethral inflammation thus extends itself, it is the epididymis alone which is affected; but when the inflammation originates in the body of the testicle, either idiopathically or in consequence of a blow, I have known wasting to be the result, and am therefore led to believe that the atrophied condition can only proceed from disease of the secreting portion of the testicle. Affections of the nervous system have been regarded as a cause of wasting of the testicle, and cases are recorded in which this description of atrophy has come on after injury to the head or spinal marrow. A case is mentioned by Mr. Curling of a complete wasting of the genital organs and loss of virility, following a severe blow on the head received in battle by a soldier of the "Spanish Legion." The Baron Larrey also describes similar cases.

In the treatment of atrophy of the testicle little more can be done beyond adopting those measures most conducive to the improvement of the general constitutional powers of the patient: in addition to the adoption of medicinal remedies, he should be removed from every source of excitement and irritation, and, perhaps, there is nothing more beneficial than a sea voyage.

The condition in which the testicle is left after atrophy is technically described by surgeons as the "fibrous testicle:" I believe it results from the total interstitial absorption of the gland itself, leaving merely its membranous investments. Some surgeons believe, however, that a fibrous tissue becomes morbidly developed, and that the peculiar state of the organ does not arise alone from the presence of the débris of the original structure. The cases I have seen do not to my mind support this view, but have rather shown that the effect is produced by the entire absorption of the tubular structure of the testicle.

Irritable testicle.—This disease is often followed by atrophy, and is, indeed, sometimes premonitory of that condition; but it also not unfrequently occurs as a primary affection. It is indicated by great tenderness of the testicle, occasionally of both, but I have generally seen it in the testicle on the left side: the tenderness increases under exertion, or from the slightest pressure, so that even mere contact of the dress produces the most intolerable pain, extending along the groin to the back; restriction to the recumbent posture being the only means of obtaining relief.

Such an attack is often only of a temporary nature, especially if it depends, as it sometimes does, upon the excitement of great sexual desire without gratification. Under these circumstances, a dose of tartarized antimony and hyoscyamus, with the application of an evaporating lotion to the scrotum, will generally be found to remove the symptoms; but the disease sometimes assumes a much more important and unmanageable form: the pain continues unmitigated by the medicines employed, the health becomes impaired, and the stomach extremely irritable; the general health is so much disordered, and the patient feels altogether so unfit to pursue his ordinary occupations, as to be willing to submit to any system of treatment which promises a chance of relief.

Sir Astley Cooper, at the urgent desire of the patients, extirpated the testicle in three cases of this disease. The cases I have met in my own practice have not been of so severe a character; and in three or four instances I have succeeded in removing the disease by attending to the restoration of the natural functions of the body, and particularly those of the organs of assimilation. The state of the urine should always be carefully examined in this disease, as a deposition of its constituents would cause irritation along the urethra, which would produce a great influence on the spermatic cord. Tenderness along the spine I have usually found concomitant with irritable condition of the testicle. Blisters on the spine will in that case prove very beneficial. Iodide of mercury, with opiates, are also useful; but lowering of every kind must be avoided, as it increases irritability in proportion as it diminishes the constitutional powers. If, in the treatment of irritable testicle, by quinine, steel, change of air, and alteratives generally, the remedies should fail in producing a removal of the disease, it seems to me that the case must be looked upon as one of morbid sensitiveness of the nerves of the part, constitnting, indeed, a true case of tic douloureux—an affection which is as intractable here as in other parts of the body.

Syphilitic orchitis.—This is a rare disease, and when it occurs, very difficult to diagnose, as the patient describes symptoms which invariably accompany and indicate orchitis, whatever may be its cause. The practitioner would therefore be led to use such remedies as are generally employed in ordinary inflammation of the testicle; but these would be found quite unequal to the removal of the disease, although they may effect some alleviation of the symptoms, and the moment the treatment was stopped the disease would return as violently as before. This should induce a strict examination into the circumstances under which the disease commenced, and also as to the symptoms at the time,—as, for instance, whether the pain in the part increased at night—whether the patient had had any syphilitic taint—and whether discharge from the urethra had been a precursor to the attack; for a purulent effusion frequently exudes from a chancre within the urethra, which may have escaped the notice both of the surgeon and the patient, or which may, perhaps, have been mistaken for gonorrhœa. The fauces should also be examined for signs of secondary symptoms, and the surface of the body, especially about the back of the head, for secondary cutaneous eruptions. If such indications be discovered, there is every reason to suppose that the inflammatory condition of the testicle depends upon this spectfic cause, and in that case mercury will be found as effective as in other forms of syphilitic disease. Last winter I had a patient in Samaritan's ward, who was admitted with what was considered to be gonorrhœal discharge, but without the presence of the usually acute characters of that disease. I passed a bougie smeared with the Ung. Hydrarg. Nitratis and Ung. Cetacei into the urethra: this diminished the discharge, but shortly after the patient was attacked by orchitis, which I at first attributed to the irritation caused by the bougie and ointment. But as the pain and swelling of the testicle did not give way under the usual remedies, and as sore-throat soon supervened, I was led to consider this a case of syphilitic orchitis, and at once placed the patient under the influence of mercury, by which he was rapidly cured.

I believe this was a case similar to those described by Ricord, of chancre within the urethra,—a disease frequently mistaken for gonorrhœa, merely on account of the discharge from the meatus; and, as it it is not treated as syphilis, secondary symptoms supervene: these are considered anomalous, because no primary sore was detected; and the affection seems involved in mystery merely because the nature of the the case is not thoroughly investigated or nnderstood.

Malignant diseases of the testicle.—With the exception of the breast in the female, the testicle is more liable to undergo the specific deterioration termed malignant, than any other secreting organ. The existence of malignant disease is usually rather recognized at first by the cachectic appearance of the patient than by any peculiar physical characters in the disease itself. And the importance of this physiognomical sign, if I may employ such an expression, is so firmly impressed on my mind, that as soon as a patient complains of enlarged testicle, I at once direct my attention to the expression of his countenance placing considerable reliance on the guidance, afforded by the peculiarity of his aspect. The most frequent of all the forms assumed by malignant disease of the testicle is perhaps

Medullary sarcoma.—This is similar to fungous hæmatodes of other parts of the body: it is sometimes termed soft cancer, and this is, I think, a very appropriate name, as the only difference between it and the affection often called hard cancer, depends upon peculiarities in the constitution of the individual who is the subject of the disease. In the sanguineous and youthful patient it is liable to put on the medullary character, while in persons past middle age, and of diminished vital power, it more frequently takes the schirrous form. When this disease attacks the testicle, it will be found that the scrotum is distended at one side into a large irregular tumor, the skin of which is very much discoloured, and full of congested tortaneous veins, which run over the surface of the tumor. To the touch it is harder in some places than in others: in being indeed so soft in spots as to give a sensation of fluctuation. The pain in this disease is neither severe nor constant; the chief inconvenience complained of by the patient arising from the increased weight of the part, which produces an uneasy sensation, especially when the testicle is allowed to remain suspended by the spermatic cord. Ultimately the disease extends in the course of the absorbent vessels of the cord to the lumbar glands; pain in the loins consequently forms one of the later symptoms, being a proof of the propagation of the disorder.

It is seldom that the exciting cause of this complaint can be pointed out by the patient; it being probably attributed by him to exposure to cold or some slight external injury; it advances with great rapidity, particularly at the points which are soft and appear fluctuating, and the irregularity in the form of the tumor increases with its growth.

If a puncture be made into one of the softer parts of the swelling, a dark-coloured sanious discharge immediately follows, and in a few days a large fungoid growth springs from the puncture, and becomes developed with immense rapidity. If, on the contrary, no opening be made in the tumor, the skin ulcerates spontaneously, and the disease advances much in the same manner as when the tumor has been punctured. At this stage of the complaint the constitution becomes daily more and more implicated: the pain in the loins increases, the lower extremity on the diseased side becomes œdematous from the pressure of the lumbar glands upon the lymphatics; and sometimes, in the latter stages of the complaint, acute pain, attended by spasmodic contractions of the testicle, is experienced along the course of the spermatic cord, and loss of appetite, restlessness at night, profuse perspirations, and in some cases frequent hæmorrhage, form the fatal climax of the disease.

The diagnosis of medullary sarcoma in its early stage may sometimes be attended with difficulty, and the disease may be mistaken for hydrocele, hæmatocele, hydatid testicle, or strumous abscess. The transparency, total absence of pain, smoothness of the surface of the tumor, and its pyramidal form, together with the unimpaired constitutional vigour of the patient, seve, however, to distinguish hydrocele from medullary sarcoma. To distinguish hydatid from fungoid testicle is much more difficult: in both these diseases there is found a like irregularity of surface, rapidity of growth, and alternating hard and fluctuating points in the mass of the tumor; indeed, in both, the physical conditions are so similar, that the most experienced surgeon may find it difficult to distinguish one from the other. In hydatid testicle, however, the constitution remains unaffected; but perhaps the most certain distinctive indication is obtained by puncturing one of the most fluctuating points of the swelling: in medullary sarcoma a bloody discharge is the result, while in the hydatid disease nothing but a limpid fluid or small hydatids escape. The malignant affection may be distinguished from strumous abscess chiefly by the history of the case, and the train of symptoms that were premonitory of the ulceration in the scrotum, and also, if the part be punctured, by the discharge of pus, instead of the production of the fungoid growth which always springs from an opening made in a medullary sarcoma. The treatment of the malignant disease is as yet wholly empirical, and is directed more towards the alleviation of symptoms than to the radical cure of the disease, which, indeed, in the present state of medical science, appears almost hopeless. Iodide of potassium, iodine, mercury, arsenic, with bark and other tonics, have all proved ineffectual; local applications seem also to be without effect, excepting perhaps that they check the rapidity of the growth of the fungus: nothing is therefore left, to afford a chance of life, but extirpation of the tumor; but even this alternative should not be adopted where there is reason to believe that the lumbar glands are implicated in the disease, or that it has extended up the spermatic cord, beyond the internal abdominal ring; and, indeed, when the operation is performed under the most favourable circumstances, the disease generally proves ultimately fatal. I have myself never known a case in which it did not return after operation either in the spermatic cord or in the lumbar glands.

When a testicle affected with medullary sarcoma is dissected, it is found to contain an adventitious mass of brain-like substance, which fills up the tubular structure of the organ: this newly formed matter is partly organized, but a portion of its substance seems incapable of receiving bloodvessels for its nourishment, but transmits their branches, which merely pass through the mass without being connected with it, and have the appearance of being distended for want of support from the surrounding tissue. These vessels readily give way under ulceration when an effusion of blood occurs, giving to the tumor a character of great vascularity. Upon more careful dissection it will be discovered that the brain-like matter is contained in small cysts of greater or less density, depending on the nature of the effusion. Some of these cysts contain sanious fluid, others a substance resembling in appearance a mixture "of strawberries and cream," and others again more solid matter: it is this variety in its contents that gives to the tumor externally its irregularity of figure and consistence, in which respect it resembles so closely hydatid testicle, as to be, as already described, with some difficulty distinguished from that disease. Some time since I was requested to go down into Bedfordshire to see a patient of Mr. Williamson, of Sharnbrook,—a case of abscess of the testicle, and the physical conditions were precisely such as to lead to the supposition that it was hydatid disease: the slight constitutional disturbance in this instance also seemed to confirm the belief that it was not a malignant affection. Extirpation of the testicle was proposed to the patient, but he could not at once make up his mind to submit to the operation, and during this delay the true nature of the disease became completely developed, as his health suddenly failed, and his appearance became strongly cachectic: he was now very desirous that the operation should be performed, and the testicle was accordingly removed. The disease in this case returned about three months after the operation, in the cicatrix and truncated extremity of the spermatic cord, and within a year and a half the patient died.

Although the result of operation in this disease is rarely successful, as it may be the means of lengthening life, and the extirpation is not in itself dangerous, it is difficult to withhold from a patient this last and indeed only chance of obtaining cure, or at least some mitigation of suffering.

Original Communications.

HERNIA REDUCED EN MASSE.

By James Luke, Esq.
Surgeon to the London Hospital.

Cases similar in their nature to the subjoined are always of so serious a character, and are so liable to mislead the unguarded practitioner in their management, by the obscurities with which they are surrounded, that, perhaps, an apology will scarcely be needed for my again drawing attention to the subject. It is generally believed that the occurrence of such cases in ordinary routine of practice is unfrequent, and we are led to this belief by the rarity of their relation in our periodic publications. The belief appears to be well founded and just, as far as relates to the adoption of operations for their treatment, for we might reasonably conclude that a large proportion, if not all, such operations, when performed, would find place in some such record. Few such cases, however, have been recorded, and we are led thereby to the inference that but few operations have been performed.

The arrival at such conclusions but slightly affects the question of the frequency of cases in which there may have been a necessity for the performance of such operation, which cases I apprehend have been more frequent than is generally supposed. My reason for this belief is supported by the results of my personal experience, which embraces an observation of seven cases, inclusive of that related below. Five of these have been related in the 26th vol. of the Transactions of the Medico-Chirurgical Society, and one, some time since, in your Gazette. It appears to me highly improbable that a number so large as seven should have fallen under the observation of one surgeon, if such cases were of extreme rarity, or when (judging from the negative arguments of the journals) other surgeons were almost wholly exempt from them. I think it is more reasonable to suppose that cases of hernia reduced en masse have occurred under the observation of other surgeons in the same proportion to other cases of strangulated hernia as they have occurred under mine, but that they have been so overshadowed by difficulties and doubts that the time for relief has been allowed to pass over without the necessary means being employed. If such be the real state of the question, it is important that the doubts which surround such cases should, as far as practicable, be cleared away, by the relation of cases, in order that surgeons may proceed with more confidence to the only treatment which promises any prospect of relief. It is with that view, and as a contribution to that end, that I send the following case for publication, which (although fatal, and be it observed, not from any failure in the object of the operation to relieve strangulation) exhibits some important particulars available as guides to correct diagnosis, as well as some useful indications worthy of attention in the conduct of such operations, and fully bearing out the truthfulness of the observations which I have elsewhere made upon this subject.

I was requested, on Nov. 3rd, to visit Mr. G., residing at Brixton, a gentleman 79 years of age, during 30 of which he had been the subject of an inguinal hernia on the right side. It was stated that, about one o'clock on the day previous, while at his place of business in town, the hernia had descended, and had become painful, on which account he had applied to Mr. Pape, a gentleman practising in the neighbourhood, and an old friend. Mr. Pape found the hernial tumor about the size of a hen's egg, rather hard and painful, which he proceeded to reduce without delay into the abdomen. This he accomplished without difficulty, and with immediate relief to the pain. After this occurrence Mr. G. returned to Brixton. When home, the pain, which had not wholly subsided, began again to increase in severity, and to extend over the lower part of the abdomen. Towards evening, vomiting supervened. At this time he was again seen by Mr. Pape, who was shortly joined by Mr. Ord, of Brixton, in consultation. Means were used without producing any alleviation of symptoms, which, on the contrary, after a very disturbed night, became much aggravated in the morning, with a great increase of pain. The vomiting had become more frequent and severe, and had assumed a fæcoid character. At this period, Mr. Ord requested my attendance. I found Mr. G. with his symptoms still increasing, his strength prostrate, and his bowels obstinately constipated. It was evident that intestinal obstruction existed. On making an examination of the right inguinal region, there was found a very small and soft tumor at the ring, clearly not a hernia in a state of strangulation. This tumor disappeared on the application of very slight pressure, but re-appeared when the patient coughed. It was not painful, and was presumed to be a small portion of adherent omentum. The spermatic chord below it was distinct, and unobscured by any superjacent structure between it and the integuments. By pressure it was ascertained that severe pain existed in the abdomen, a little above the internal ring, and that thence it shot across to the opposite side. By more firm pressure, it was also ascertained that at the same part a tumor could be *very obscurely* felt beneath the abdominal muscles, which, under the pressure, receded deeply into the abdomen, and could be no longer felt. Taking a review of these facts in connection with the previous history of the case, we came to the conclusion that the hernia which had descended on the yesterday had been reduced *en masse*, and in a state of strangulation. The hope of relief, therefore, by other means than by operation appeared very slight. With the concurrence of Mr. Ord and Mr. Pape, I consequently proposed that proceeding, to which the patient readily assented, and it was performed about twenty-five hours from the first descent of the hernia.

Operation.—After the patient had been drawn to the side of the bed, a fold of integuments over the inguinal canal, external ring, and upper part of the spermatic chord, was transfixed and divided to the extent of about four inches. A little dissection brought the small tumor previously mentioned into view, which was then opened: it contained a very small portion of omentum so entirely adherent to its sac as to close all communication with the abdomen. It was remarked that the spermatic chord below the tumor was distinctly visible from within an inch of the external ring downwards, being uncovered by any superjacent hernial sac,—a circumstance of importance to be noted, since it is highly probable that this part had been covered by sac previously to the reduction of the hernial tumor, which, it will be recollected, was stated to have been as large as a hen's egg. The fact, therefore, became a strong presumption that the sac had been reduced into the abdomen, together with its contents, which the symptoms had previously led us to suppose were in a state of strangulation. On introducing the finger through the ring, nothing could at first be felt indicative of the existence of a tumor within them. But when the adherent omentum and sac were drawn down, a rounded body was brought into contact with the finger, which body was evidently the hernial tumor that we were seeking. It was, however, so deeply seated within the abdominal parieties as not to be freely exposed, except by a greater division of them than I felt justified in making until other expedients had failed. To meet this emergency, I employed traction of the omentum to an extent much more considerable than I had previously done. During the time that this traction was being made, the rounded body formerly felt, slipped from under the finger that was introduced within the rings, and could no longer be felt. On continuing the traction, a portion of sac, or what appeared to be so, was brought into view and held forcibly down by Mr. Ord during the time I continued the dissection necessary for its division. When divided, it was found to have been emptied of its contents, with the exception of some fluid, which escaped.

On introducing the finger through the aperture which I had made, it was found that at the distance of about two inches there existed a considerable contraction, forming a very narrow communication with the general cavity of the abdomen, with rigid margins, and an aperture not larger than sufficient to admit the point of the fore-finger. We concluded that we had now reached the original seat of stricture and cause of obstruction, from which we thought the hernial contents had escaped during the manipulations used to bring the tumor into view. The sac being empty, and nothing within the influence of the stricture, I felt satisfied that the operation had been carried sufficiently far, and that in reality we had attained the object of liberating the strangulated hernial contents for which it was undertaken. The wound was therefore closed, and the patient, somewhat exhausted, was placed in bed after a little wine had been administered to him.

It was agreed that neither food nor medicine should be given for three hours, but that a little drink might be taken for the purpose of moistening the mouth and tongue, which last was rather dry and brown. At the end of that time, if no sickness supervened, ʒij. of sulphate of magnesia dissolved in ℥j. of peppermint-water, were ordered to be taken every three hours until relief should be obtained from the bowels.

Nov. 4th.—There has not been any vomiting since the operation. He has taken the medicine as ordered, but the bowels have not acted. The abdomen is somewhat painful at the lower part, and generally tympanitic. There is a little disposition to eructation of gas from the stomach, and some general depression of strength. An enema which was now administered caused considerable exhaustion: it brought away a small quantity of fæculent matter.—The medicine to be continued every two hours.

5th.—In the evening of yesterday exhaustion became so severe as to cause alarm, but this has passed away under the use of stimulants. Stomach tranquil; the bowels have been slightly relieved, and large quantities of gas have passed per rectum, with great relief to the tympanitic condition of the abdomen. The pain and tension have so far diminished that pressure can be borne without inconvenience; the strength and appetite have also improved: he craves for food.—Ordered a nutritious diet, with a glassful of wine every three hours. The sulphate of magnesia is to be omitted, and ℥ss. of castor oil is to be taken immediately.

6th.—The castor oil has acted six or eight times, and the pain and tympany of the abdomen have wholly passed away. Nourishment has been taken plentifully since yesterday, and the patient is in all respects much better.

9th.—Has proceeded favourably since my last visit on the 6th, until this morning, when a considerable change in his condition took place. He is now very much depressed; the pulse is weak; the respiration is rather embarrassed, and he sighs occasionally. The tongue is brown and dry; the wound has healed through half its extent; the remainder appears healthy. Inflammation, however, has attacked the scrotum, and also the integuments above the wound, extending towards the loins. The bowels have continued to act properly since my last visit, and he has taken much nourishment and an allowance of wine. It is now evident that he is sinking. His death took place on the 10th.

Post-mortem was not obtained.

POOR LAW MEDICAL RELIEF.

It is necessary we should remind our readers that the meeting of Poor Law Medical Officers will take place at the Hanover Square Rooms on Monday next, the 19th inst.

THE DISEASES OF INDIA.

ON HEPATITIS, FOLLOWED BY ABSCESS, AND ITS TREATMENT :

With Remarks.

By Robert Macaulay, M.D.
Ajmere, Upper India.

There are few diseases incidental to a tropical climate, which sooner force themselves on the attention of the newly arrived practitioner, or excite a greater interest in his mind, than those of the liver; and they well deserve the most attentive and serious consideration,—whether we study their acute forms, rapidly running their course, and too often ending in complete disorganization of the viscus; or those more chronic affections, so frequently predisposing to the more acute attacks, as well as to various structural changes, and which are in every case productive of a long train of unpleasant symptoms, and often require for their removal an entire change of climate and scene.

The suppurative inflammation of the liver is, to the Indian practitioner, one of the most interesting forms of these diseases, and the following successful case, where the contents of an abscess were evacuated, together with the valuable prefatory remarks,* may be acceptable to the readers of the Medical Gazette :—

Hepatitis acuta.—Of this complaint 32 cases were admitted and treated during the year. Of these, 22 were discharged, 7 died, and 3 remain for further treatment. Allusion has more than once been made to the marked prevalence of this disease from about the commencement of the periodical rains on the 35th June, (1847), and more or less to the end of the year, as well as to its more than ordinary tendency to terminate in abscess of the organ, notwithstanding early and vigorous treatment. I have not witnessed any thing like the same frequency of hepatitis since the rainy season of 1844, a season perhaps even still more remarkable than the past, for frequent occurrence of abscess in the liver. Among the 9th Lancers, at Cawnpore, in that year, if a man came into hospital suffering under hepatitis or any other acute disease, and eventually died, the probability was great in favour of one or more abscesses being found in the substance of the liver, and that, even although no symptoms calculated to direct particular attention to this organ were alluded to by the patient during life. At the same station, in the following year (1845), it was almost as rare to meet with a case of hepatitis or hepatic abscess, as it had been common at the time referred to. It may not perhaps be deemed irrelevant to remark, although I do not profess ability to explain the cause, that the Honourable Company's Artillery, on the right of the Dragoon lines at Umballah, and H. M. 61st foot on the left, like the 14th Dragoons, suffered much from hepatitis, characterized by the same tendency to terminate in abscess, while the 3rd Light Dragoons, occupying one half of the same line of barracks as the 14th Light Dragoons, suffered comparatively little from the disease.

In the course of the year some good illustrations have been afforded of several of the modes in which Nature, when left to her own efforts, endeavours to effect the removal of the contents of an abscess formed in the substance of the liver. In some instances a solitary abscess has been found, but more frequently the several,—while in one case the number of distinct abscesses found interspersed throughout the substance of the liver amounted to twenty-five. In one case an abscess of large size, occupying the right lobe of the liver, perforated the diaphragm, evacuated its contents into the cavity of the right pleura, and compressed the lung of that side. In a second case, the walls of an abscess, occupying the left lobe, adhered to the walls of the left hypochondriac region, and evacuated a part of its contents into the cavity of the abdomen, causing general peritonitis, which materially hastened the fatal termination. The lower surface of the left lobe of the liver in the vicinity of the abscess was also in this instance adherent to the stomach, as if the effort at spontaneous elimination had also commenced in that direction. In a third case pneumonia was induced by an abscess of the liver perforating the diaphragm, communicating with the lung, and evacuating its contents by the bronchiæ. In a fourth case the abscess formed a swelling between the edges of the right false ribs and the mesial line, the contents of which were removed by operation, and with recovery of the patient. It would be easy to quote several cases of this disease, which would be far from destitute of interest; but to avoid extending this report to an inconvenient length, I shall limit myself to a single case, that of the successful operation just alluded to.

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* For these remarks (extracted from his Annual Report), and for the case, I am indebted to the kindness of A. Stewart, Esq., H. M. L. Dragoons.

Before entering into the details of the case, however, I may mention the following facts:—After a residence of upwards of five years in India, passed in almost uninterrupted daily practice in the wards of a regimental hospital in H. M. service, and with as favourable an opportunity of seeing, from time to time, as fair a proportion of cases of hepatitis, and many of them, in spite of treatment, terminating in abscess, as falls to the lot of most medical officers similarly situated, I never, until the present year, met with a single instance of abscess of the liver in which an operation for the removal of the contents appeared to be indicated by external local appearances. Within a period of six months, however, I have witnessed no less than five instances, all characterised by a swelling of greater or less extent and prominence in front of the right hypochondriac region, between the cartilages of the ribs and the mesial line, and all of which, as it were, invited the performance of an operation. The first case was that of an artilleryman of the H.C.S., who died without any operation having been performed. The second was a man of H.M. 61st Foot, on whom the operation was performed early, before the abscess had attained great size, and who recovered. The third was also a man of H.M. 61st Regt., but in every respect a much less favourable subject than the former. The operation afforded relief for a time in this case, but unhealthy ulceration in the situation of the incision, and other untoward symptoms, set in, and death ensued. On dissection, the cyst of the abscess pierced, had contracted considerably, but one or more additional abscesses of large size were found to occupy other portions of the liver. The fourth was the successful case of a man of the 14th Light Dragoons, to be presently detailed. In this case the operation was performed at an early period, that is to say, before the abscess had attained any great size,—by assistant-surgeon D. Lucas, H.M. 61st Regt., and upwards of three pints of pus were at once removed by the operation. The patient died. To this number, perhaps, I might add a sixth—that of an artilleryman of the H.C.S.: but the accuracy of the diagnosis had not been proved in this case up to the time I last saw the patient, as the man had refused to submit to any operation, He was then to all appearance sinking.

The result of the five cases, then, has been,—one died without operation, and of four cases operated on, two have died and two have recovered.

Case.—Private John Collier, 14th Light Dragoons, aged 36 years, of moderately robust form, and sallow complexion, was admitted into Hospital, at Umballah, on the 14th August, 1847, after having suffered from the morning of the preceding day from pain in the lower part of the right hypochondrium, and along the margin of the false ribs. Pain was increased by pressure, and by attempting to lie on the left side; decubitus on the back. The skin was cool and moist; the pulse soft and compressible. The bowels were regular, having generally been moved twice in the twenty four hours. At first there was no unusual dulness on percussion along the edges of the false ribs, but on the 24th, this symptom, with considerable tumefaction, became apparent in that situation. The pain, although occasionally moderated by local bleeding, blistering, &c. continued more or less persistent and acute, but especially in the right side of the epigastrium, over a swelling which had appeared at that point. The following report of his case, dated 30th August, is quoted from the Medical Register:—'States that he is quite free from pain; sleeps well; appetite tolerably good; bowels regular; the dulness continues in the epigastrium, extending from a short distance below the arch of the ribs. Pulse small and compressible (80); temperature natural; skin of a yellowish tinge.' On the 2nd September, the following report appears:—'Complains of an uneasy sensation in the side, scarcely amounting to pain; pulse small and weak; appetite good; bowels perfectly regular.'

The uneasiness here referred to was removed by a blister, but on the following day (3rd September) he complained of debility, griping pains in the abdomen, frequent ineffectual calls to stool, and tenesmus. The appearance of fulness in the epigastrium much the same. The pulse was small and compressible; skin cool. Gripings and tenesmus were for a time relieved by a rhubarb draught and anodyne enema, but soon returned. About this time, from the history and progress of the case, together with the previously declared tendency of the season, the existence of abscess in the liver was suspected. The state of the patient, however, having for a day or two rather improved than otherwise, it was after due deliberation agreed that so long as his constitution continued to maintain its ground against the disease without further injury, no operative interference should be attempted. This favourable state, however, proved but of temporary duration. Griping, and frequent purging of mucoid stools streaked with blood, ensued, under which his strength began rapidly to give way. The swelling had, if any thing, increased, and some pitting, on continued pressure over the ribs corresponding to the swelling, was perceptible.

Fluctuation, even to those who could perceive it at all, was deep-seated and obscure. The outline of the anterior margin of the right lobe of the liver extended fully half way between the margin of the false ribs and the umbilicus, while the most prominent portion of the swelling occupied more of the space between these points.

An operation having been decided on, it was performed by Assistant-surgeon Lucas, 61st Regt. at 5 P.M. on the 6th Sept. 1847, in presence of several medical officers, myself among the number. The steps of the operation were as follows:—an incision through the integuments was commenced about half an inch below, and to the right side of, the ensiform cartilage, and extended obliquely downwards and outwards, parallel and a little anterior to the edge of the false ribs, to the extent of three inches. The parts were carefully divided, until the posterior part of the sheath of the rectus abdominis muscle was reached. Along the left index finger, introduced into the wound, and resting on the most prominent part of the swelling, an ordinary trocar of large size was passed and pushed into the abscess. The trocar having been withdrawn, about three ounces of pus mixed with blood escaped by the canula. The internal opening made in the abscess by the trocar, was enlarged upwards and downwards, in the same direction as the external wound, and a tent introduced. Some trifling hæmorhage which had occurred, having ceased, a light poultice was applied over the whole. The operation was well borne, and did not appear to be attended with much pain. At nine o'clock P.M., the patient was found to be easy, and free from the griping pains under which he had suffered previously to the operation. The bowels had been gently moved twice during the day. On the following morning he was found to have slept but little, but was free from pain. There was slight heat of skin; pulse 100; some thirst, and about half an ounce of pus tinged with blood was found upon the dressing. In the course of the 7th he was purged three times, which he attributed to some wine and water administered to him. Slept a little at intervals during the day: in the evening he was found free from pain; skin and pulse, and quantity of discharge on dressing, the same as in the morning. On the morning of the 8th he was found to have slept well, and he felt comfortable. Had three copious fæculent stools, motions of dark brown colour, during the night. Decubitus chiefly on the back, but he could lie on the left side without pain; and, on assuming the latter position, the discharge from the wound was for some seconds increased. The total quantity of discharge which escaped at this time amounted to about two ounces and a half. Some cold wine and water having produced griping, it was ordered to be given with warm water and surgar. Between the hours of ten A.M., and twelve at noon, he was attacked with severe purging, accompanied by much griping and tenesmus. Twelve leeches were applied to the verge of the anus, a poultice to the abdomen, and he had internally a dose of Pulv. Cretâ c. Opio, with relief to symptoms. But he continued feverish; pulse 120; tongue slightly furred; free from pain in the side; the discharge about two ounces in quantity, and slightly tinged with blood. Had some hot wine and water about nine P.M.; immediately after which he was purged very freely, and continued to be so nearly throughout the whole night, but without suffering from pain or griping. Wine was omitted. At morning visit on the 9th he had less heat of skin than on the preceding evening, and the pulse was less frequent. Tongue whitish in the centre; appetite indifferent; free from thirst; scarcely any discharge from the side; prominence of the hypochondrium diminished since the operation.

From this time (morning of the 9th) until the 13th, his state fluctuated considerably, being sometimes comfortable, and comparatively free from bowel complaint; while at other times he was suddenly, and particularly at night, attacked with severe purging, having more or less of a dysenteric character. At this time, as will be shown by the following extract from the medical register, the case assumed a most serious aspect:—"September 13th: although frequently requiring the close-pan yesterday, he passed merely a small portion of mucus. Had a very restless night; perspired freely; complains of pain again in the rectum, and tenderness on pressure in the right iliac region; no discharge this morning from the wound. 14th.—Purged severely throughout the night; dejections fæculent, mixed with blood and mucus. Had little or no sleep, but states that he was quite free from pain; losing flesh daily; features sharp; countenance expressive of great anxiety and debility; is sinking rapidly from purging; no discharge of matter from the wound this morning; had several dysenteric stools yesterday—two or three every hour, and he was left weak and exhausted at evening visit.

15th.—States this morning that the draughts (Mist. Cretæ, ℥ij.; Tr. Catechu, Tr. Kino sing. ʒss. ♏. ft. haust. p.r.n. sumend.; etiam Acet. Plumb. gr. iij; Opii gr. iss. M. ft. pitula ter in die sumenda) gave him much relief, and have checked the purging considerably, and he spent a tolerably comfortable night."

These symptoms continued with more or less severity for some days, but a gradual and general amendment took place by the 21st September, when the dejections are reported as being without mucus or blood. From this time improvement gradually advanced, although not uninterruptedly. The wound, which was always dressed from the bottom, and kept open as long as possible, had completely cicatrized by the 19th November. He continued occasionally liable to attacks of griping and flatulence, accompanied for a time by profuse flow of saliva. The stools for a considerable time were of rather light colour, as if from the deficiency of bile. On the 13th January he complained of flatulence; uneasiness in the abdomen; pain, but not always fixed as to exact position, in the right shoulder and side, with frequent ineffectual calls to stool, and expectoration. Under the use of cupping, leeches to the right hypochondrium, the warm bath, &c., these symptoms ceased. On the 13th February he was, in consequence of the regiment being about to march to Ferozepore, transferred to the hospital of the third Light Dragoons at Umballah, to await the departure of the invalids of the season for the depôt at Landour. He was then without complaint.

The treatment of this case varied at different times, according to the state of the patient. It may, however, be said to have chiefly consisted of purgatives; the repeated application of leeches in large numbers to the right hypochondrium, and a few occasionally around the anus; cupping; calomel and opium with tartrate of antimony; repeated blisters and other counter-irritants over the affected organ, as well as the ascending and descending portions of the colon; opiates, anodynes, astringents, and light emollient poultices to the seat of operation; warm bath, &c. &c. Diet was regulated throughout, and generally of as light and nutritious a kind as possible. A portion of wine or brandy was also for a time administered. In conclusion, it may be remarked that one or two blisters applied latterly, for the relief of pain in the righi hypochondrium, &c., although left on much beyond the usual time, either did not rise at all, or did so very imperfectly. To obviate this inconvenience, the surface intended to be blistered was well rubbed with an embrocation composed of half a drachm of croton oil and one drachm of olive oil. The blister was applied to the part in an hour or two after, and followed by the usual satisfactory result."

The above successful case, coupled with the other to which allusion has been made, and which occurred at the same station and in the same season, leads us to take a more favourable view of the operation than certain writers on the subject seem to do. Thus Dr. Budd, at page 94 of his work on the Liver, says, "An occasional instance of success will, I fear, be a poor set-off against the cases in which the operation has done mischief, or failed of doing good." Want of success may be frequent, but operating does not generally, if ever, increase the mischief.

Two dangers are much dwelt upon as connected with this operation:—1st, mistaking a distended gall-bladder for an abscess in the liver; and 2nd, evacuating the contents of an abscess before adhesions have formed between its walls and the abdominal parietes, thereby allowing pus to escape into the sac of the peritoneum, and rapidly inducing a fatal result.

The former of these dangers has been, I think, much over rated. The whole history of the case,—the situation and nature of the pain complained of,—the appearance of the tumor in hepatic abscess after the usual symptoms of acute inflammation in the right hypochondrium,—the presence, perhaps, of diarrhœa or dysentery,—the tendency of the season,—the state of the pulse, and general aspect of the patient, &c. &c.,—will generally enable the practitioner to distinguish the disease.

The second danger is undoubtedly great; but I would only remark that in some cases the operation, if it is to do any good, cannot be delayed till signs exist of adhesions having formed, such as "circumscribed œdema, a blush of the skin," &c.; and, besides, abscesses may run their whole course and prove fatal, without any adhesions having been formed to superjacent parts. Here the operation may give the patient the only chance he has, and may also be the very means of exciting those adhesions so much to be desired. The great obstacle to success, in my opinion (and I have seen a great many cases of the disease), is the existence of more than one abscess in the liver, beyond the reach of operation.

The chief causes of hepatic abscess in India are—1st, the existence of diarrhœa or of ulceration of the large intestines; and 2dly, the excessive heat of the climate, often combined with some malarious influence.

The connection between abscess of the liver and dysentery is often very striking, and certainly cannot be considered accidental. I do not think, however, that Indian practitioners are generally disposed to agree with the opinion of Dr Budd, that the ulceration of the intestine always precedes and causes the abscess in the liver. It is difficult to suppose this always to be the case, especially where all the symptoms usually associated with the latter, appear first.

The heat of the climate, especially during the rainy season of the year, is a common cause. One of the last cases I have seen affords an illustration of this. A healthy European sergeant of Infantry was detached in the rainy season, on the unpleasant duty of escorting a prisoner by the usual slow and regular marches towards Calcutta. He left the head-quarters of his regiment in perfect health, but about four days afterwards he was seized with acute hepatitis, and about eight or nine days later, when he was admitted, under my care, into the Horse-Artillery Hospital at Meerut, it was evident that the inflammation had terminated in abscess. He sank rapidly, and a post-mortem examination shewed two large abscesses in the right lobe of the liver. All the other viscera of the thorax and abdomen were in a healthy state.

Again, the excessive heat, even when no malarious influence can be supposed to operate, seems to be often the only assignable cause of the disease. It is not very easy to account for this, especially when we know that Europeans on the coast of Africa, and on other stations, are exposed to higher temperature, without being subject to abscess of the liver. Dr. Budd thinks that heat is far less frequently a direct cause of abscess than is generally imagined, and "that the notion originated from the prevalence of dysentery, which we have seen to be a frequent cause of abscess in many tropical climates. On this remark, all I can say is, that the diseases of European soldiers in India are registered as soon as they are admitted into hospital, and that the cases marked "Hepatitis acuta," and often ending in abscess, would not be so frequently entered under that head if the symptoms of dysentery were in the first instance predominant.

Nov. 24, 1848.

REPORTS OF SURGICAL CASES.

By Henry Smith, M.R.C.S.
Formerly House-Surgeon to King's College Hospital.

Case of Tracheotomy.

I was requested by Mr. Collins, of Mary Street, Hampstead Road, on the morning of Dec. 28, 1848, to visit with him immediately a child living near his residence, as he thought it would be necessary to perform an operation. On arrival, I found a fine child, aged eleven months, evidently near death from obstructed respiration: it was lying with its eyes turned up under the upper lids; the face was livid; the alæ nasi were hard at work; the inspiration difficult, and attended with a loud noise. It appeared that the child had been attacked with measles some three weeks since, which disease was followed by symptoms of inflammation within the chest. Under Mr. Collins's care, the case was progressing favourably, until Monday, Dec. 25, when symptoms of mischief about the windpipe came on, and on the 27th the patient became very bad, breathing with great difficulty, unable to swallow its mother's milk, and the inspiration was every now and then accompanied with a peculiarly shrill noise. These symptoms induced Mr. Collins to suppose that some serious mischief existed about the entrance of the larynx; and as they had greatly increased the following morning, and the child was in extreme danger, he thought that the only chance of saving life was to open the windpipe. I examined the chest, and found that the air was entering feebly into the lungs; and it was difficult, from the noise in breathing, to ascertain precisely the existence of disease there, but it was evident that the upper portions of the lungs were healthy, and could admit air. Seeing, therefore, the dangerous condition of the patient, and it being evident, from the history of the case, and the present symptoms, that the disease was in the upper part of the windpipe, I agreed with Mr. Collins in recommending the performance of tracheotomy; and, with the assistance of that gentleman, I performed it in the following manner:—The child was laid on its back, its shoulders supported by a pillow, the head being steadily held, so as to render the neck somewhat tense and prominent. An incision was then made through the skin and fat, commencing about one inch above the upper margin of the sternum; the tissues were then cautiously dissected through and on one side, until I came down upon the trachea, covered by a strong fascia. I then divided this carefully, but in doing so I wounded some vessel, which bled pretty freely, and gave me some trouble in seeing the trachea, which lay very deeply in the throat. The hæmorrhage, however, soon ceased by the application of sponge and water; and I was then enabled to get a view of the trachea, which I well cleared from the investing tissues to the extent of about half an inch, and then easily perforated with the point of a narrow bistoury. A portion of gum catheter was then easily introduced, with very little irritation, as not a drop of blood got into the windpipe. The improvement was soon perceptible: the face became clearer, the eyes brighter, the respiration easier, and the pulse fuller. A little wine and water was given, but a greater portion of it came away through the tube, causing considerable irritation: some more was then given, with great caution, by pressing the tongue well backwards, and then closing the glottis: it passed into the stomach.

I left the child in the care of Mr. Collins. During the time that I stayed, the improvement continued, and the mother of the child was pleased with its altered appearance, and freedom from dyspnœa. An injection of beef-tea and wine was ordered, and the exhibition of wine and water in small quantities, occasionally.

Mr. Collins saw the patient in about three hours afterwards, and found that it breathed easily and tranquilly, but the depression was very great; and this continued for two hours more, notwithstanding the exhibition of enemata, and wine and water, when the child died tranquilly, from mere exhaustion, about five hours after the operation.

We were fortunately permitted to make a post-mortem examination, when a most beautiful specimen of disease was found; showing the correctness of the diagnosis arrived at by Mr. Collins, that the disease was seated about the upper part of the windpipe, and that the trachea was not involved. The appearances presented were the following:—Marks of inflammatory action over the greater part of the pharynx, extending over the whole of the epiglottis and epiglottidian folds. There was a dense layer of lymph deposited underneath the mucus membrane of the whole of these parts, presenting here and there a tuberculated appearance. The inflammation extended along the cellular tissue, between the thyroid and cricoid cartilages, and was thus communicated to the lining membrane of the ventricle of the larynx, which cavity on each side was obliterated by the deposit before mentioned; the tissue immediately around being healthy. The lower part of the larynx and the trachea were perfectly healthy. There was some solidification at the base of each lung, but the upper parts were healthy, and fitted to perform their functions. The incision in the trachea made during the operation was situated immediately below the isthmus of the thyroid gland, and extended through the third, fourth, and fifth rings of the trachea.

This appears to me to be a particularly interesting case, as it is rare to meet with one like it, in which disease of a similar character, and in a similar locality, exists in the infant, and for which the operation of tracheotomy is so imperatively called for and adapted to; for the majority of cases in which the operation has been required in children, has been inflammatory affection of the trachea, and the propriety of its performance in this disease has been questioned by some good authorities; but there can be no doubt of its propriety and applicability when the disease is confined to the upper part of the wind-pipe, as it was in this instance. In was in consequence of Mr. Collins and myself thinking that the disease was in the larynx, and not in the trachea, that we deemed it proper to have reccurse to the operation. Had there been any evidence of inflammation in the trachea, I should have hesitated ere I performed it, knowing how seldom the result is attended with success. But the surgeon has good ground for hoping that the operation may be beneficial if the disease be limited to the upper part of the windpipe; for he sees that when performed upon the adult patient labouring under laryngeal disease, even under the most desperate circumstances, the proceeding is sometimes attended with the most signal success, and gives more direct relief than any other operation he can put in force.

The disease in this instance was somewhat similar to that termed by the French writers diphtherite, although not a pure specimen of this disease, and assimilated to it rather from its locality; the back of the palate, pharynx, and external surface of the larynx, being attacked. Its occurrence after measles is another similarity. Unquestionably in some cases of diphtherite the operation of tracheotomy should be performed, and I believe successful cases have occurred; therefore I am surprised, on turning to that admirable work on Diseases of Children, by Dr. West, to find no mention of the applicability of the operation to some cases of this disease.

It may be a question how far the partial pneumonia which was present would have hindered the success of this operation, had there been sufficient power left in the system to recover from the immediate effects of the proceeding; and some may be inclined to question the propriety of resorting to it, if we had been enabled beforehand to determine the amount of disease within the lungs; but it must be recollected, that although symptoms of inflammation within the chest had existed for some time, the urgency of the case was only well marked within 72 hours, and was evidently chiefly due to the affection of the larynx, for a greater portion of the lungs were fully capable of performing their proper functions; moreover, it was difficult to ascertain the precise condition of the lungs, and every practitioner who has seen cases in which the larynx as well as the lungs is affected, will admit that the stethoscopic signs cannot be depended upon.

The cause of death in this instance was entirely owing to simple exhaustion of the powers of life, which were not sufficient to recover the child from the previous depression of the disease, the shock of the operation, and the loss of blood which took place, to the extent of one ounce or one ounce and a half, a large quantity for a child of that age, and in that condition, to lose with impunity. The object gained in this instance was relief from the distressing dyspnœa, and consequently an easy and quiet death, which proved a great satisfaction to the anxious parent, who was watching her child, and had seen the distressing condition he was in before the operation was performed.

13, Caroline Street, Bedford Square,
Jan. 1849.

BATH UNITED HOSPITAL.

Dr. **Wilbraham Falconer** has been elected physician to this hospital, in the room of Dr. Daniel, who has resigned.

OBITUARY.

On the 2d inst., at Montrose, in the 43d year of his age, David Burnes, Esq., M.D., formerly of London.

On the 6th inst., at his residence, in Ashburton, Devon, after a few hours' illness, John Soper, Esq., M.D., aged 52, respected and greatly lamented by all who knew him.

STATE OF MEDICINE AMONG THE TRIBES OF THE NIGER.

Although the practice of medicine is in its lowest state of degradation, clouded with all possible superstitions, yet its professors, the Mallams, are well provided for, and are even looked up to, especially in the Nufi and Kakanda countries. The Mallams profess to teach Mohammedanism, and to practise the healing art. Charms, in the form of scraps of the Koran, are resorted to in all cases of difficulty. They circumcise and scarify when there is any local pain. The ritual is performed at an early age. The sole instrument is a country razor. The Mallams are paid according to the circumstances of the patients. At Egga, I understand a sheep, a goat, and several thousand couries, are often a "fee" for one operation. I have seen few people in England submit so quietly and willingly to medical treatment as the Africans do. I have, for instance, proposed to a man to be operated upon for cataract. He has sat down,—the lens has been depressed, and he has afterwards walked quietly into his boat.—*Dr. M'William's Expedition to the River Niger.*

MEDICAL GAZETTE.

FRIDAY, FEBRUARY 16, 1849.

There is a prevalent idea that the progress and mortality of malignant cholera are influenced by the temperature, pressure and hygnometric state of the atmosphere. At one time we are informed that it is arrested by cold, and that its diffusion is greatly aided by heat and moisture. At another time, its increase or diminution is referred to changes in the barometer, and to the prevalence of particular winds. Close observation, however, shows that these statements have no foundation in fact. It has been recently observed, in Constantinople and Breslau, that the cholera actually increased in severity when the temperature of the air fell; and its diffusion and mortality in the coldest parts of the Russian empire, prove that cold is really no barrier to its progress. Then, again, we do not find that a high temperature, and a great amount of humidity, are favourable to the spreading of the disease. According to the popular theory of the day, this metropolis was, during the month of January, in a most favourable state for the extensive diffusion of the cholera. The temperature was unprecedentedly high—on the average no less than 8° above the mean of the month,—and during two weeks, 10° above the mean! South-westerly winds prevailed, and the air was saturated with humidity. Our readers will have observed, from our weekly reports, that, setting aside the mortality at the Tooting asylum, as constituting an exception of a special kind, the cases actually decreased in proportion to the increase of temperature and humidity. With respect to the barometer, it had, during this period, a very wide range; and the cases and deaths bore no proportion to the variations of pressure. This is in strict accordance with the observations of Dr. Casper, at Berlin, in the cholera of 1832.* This eminent medical statistician compared daily the number of cases and deaths from cholera with the diurnal range of the barometer, but the result was that no conclusion could be drawn from them. There is, therefore, a total absence of proof of the connection of any particular state of the weather with the progress and mortality of cholera; and our experience of the disease, extended by the present invasion, confirms the statement made by Dr. Copland, two years before its reappearance, that "there was no uniform relation observed, either in this country or in the eastern and western hemispheres, between the appearance of the malady and marked variations in the barometer, thermometer or hygrometer, even in the few places where these were registered; but the irruption of the pestilence was often observed in states of season, weather, and atmosphere, opposite to those to which it has been confidently imputed." The weather hypothesis may, we think, be regarded as a complete failure. The disease is neither arrested nor retarded in its progress by heat, cold, dryness, or moisture. The only point which can be conceded is—that *sudden changes* in these atmospheric conditions predispose to cholera as they do to other diseases which affect the human body: but there is no specific relation between any one of them and malignant cholera. To those who are inclined to trust in the weather-hypothesis, notwithstanding the total absence of proofs, we would make the following suggestion:—The cholera, according to official reports, has now been four months in these islands. During this period, up to the 31st January last, there had occurred in England 1648 cases and 807 deaths; and in Scotland, with about one-eighth of the population of England and Wales, no less than 8547 cases, and 3705 deaths! This difference in the diffusion and mortality of the disease in the two countries is so enormous, that it is clear, if the state of the weather have any marked influence in exciting cholera, it would have been easily found to exist in this instance; but, so far as we know, the most shrewd and competent medical practitioners in that part of the kingdom have not been able to refer this disproportionate mortality to any atmospheric condition whatever. We have not heard that there has been any appreciable difference in the state of the weather in the two conterminous countries; and we think this, with other facts of a similar kind, is sufficient to shew that temperature, pressure, and humidity, have no perceptible influence on the spread of the disease.

But there is another point of view in which this question may be regarded. We are told that we are now in the winter season, that the cholera is smouldering among us, and that the advent of spring will probably rouse this latent scourge, and lead to that amount of devastation which has characterised its progress in other countries. We confess that we do not entertain any such gloomy anticipations. The capricious and unintelligible mode in which the disease spreads, should certainly inspire caution in giving any opinion; but if we are to judge of what may occur by that which has occurred elsewhere, we have every reason to take a more favourable view of the future than that above indicated. It is true that we are in the winter season, so far as the months are concerned; but as season only operates by weather-influences, we have to remark that, during the greater part of the month of January, the temperature and other conditions of the atmosphere were those of the latter end of March or beginning of April. Hence, unless there be something specific and inappreciable in this influence of season, we are unable to understand on what grounds the cholera is to assume a more severe and fatal character in spring.* We had in the month of January as great and as sudden fluctuations in the thermometer, as we are likely to have two or three months hence. The increase of cholera, therefore, under the circumstances suggested, is not even rendered probable.

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* Denkwürdigkeiten zur Medicinishen Statistik, p. 36.

On the contrary, it appears to us, if we are permitted to judge from the course of the cholera in the cities of continental Europe, and to pronounce an opinion of the future from the past, we have great reason to anticipate that the disease will not increase, but rather diminish in severity, and gradually disappear. It has been uniformly observed, that on the first irruption of the disease it has been most prevalent and fatal. A few isolated cases have occurred: it has then suddenly burst forth, and seized at once, in large numbers, the most susceptible in a population. In the early outbreak, the cases have been the most numerous, and the deaths, compared with the cases, have been at a maximum: they have then, with occasional fluctuations, undergone a progressive decrease, and, as in other epidemics, the disease has slowly declined, either owing to the survivors having become inured to the miasm, or to the *materies morbi* itself having lost its power of propagation. This is borne out with respect to the cholera by the statistical investigations of Dr. Casper at Berlin, and by accurate records kept in other cities during the past and present invasion. In Moscow, Constantinople, and other cities, the disease certainly reappeared after it had apparently died off; but, in all instances, we believe its attacks have been most formidable within the first few months. It should therefore be a subject of congratulation to us that in this crowded metropolis there were reported no more than 884 cases and 479 deaths, for the 4 months ending January 31st, during which the cholera had been officially announced; and unless the disease deviate widely from the rule of its progress and mortality in Moscow, St. Petersburgh, Berlin, Hamburgh, and other great cities, we are justified in inferring that the epidemic is not now likely to assume a very aggravated form.

It may be as well, however, to compare the progress of the disease in the metropolis in 1832, with its progress in 1848-9.

The first accounts of the cholera in London are given in the MEDICAL GAZETTE of February 18, 1832. It was declared officially, although erroneously, to have ceased in London on the 19th of May in that year; and after this date the cases and deaths in the metropolis were no longer specially returned, although it is notorious that they underwent a remarkable increase in the summer months. Taking a period of three months, from the commencement of the disease in the two invasions, *i. e.* the 14th February, 1832, and the 28th of September, 1848, the cases and deaths in the metropolis were as follows:—

	Feb. 17, to May 19, 1832.	Sept. 28, to Jan. 2, 1848-9.
Cases . .	2169	274
Deaths .	1381	186

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* As we shall presently have occasion to show, the cholera of 1832 was most severe in March, and subsided in May. The cases and deaths were twenty times more numerous in the former than in the latter month!

The progressive increase and decline of the disease in 1832 are clearly indicated by the record of weekly deaths. In the first week, the deaths were 14; in the 2nd, 17; in the 3rd, 62; in the 4th, 119; in the 5th, 194; in the 6th, 208; in the 7th, 258; in the 8th, 276; in the 9th, 113; in the 10th, 40; in the 11th, 33; in the 12th, 52; in the 13th, 15; and in the 14th, 10. At this period, cholera was declared, apparently from motives of public policy, to have ceased; but in July and August, the weekly deaths became again as numerous as at any previous period. Thus in the week ending the 21st August, the deaths from cholera were 274, *i. e.* nearly as numerous as in the previous April; and on the 11th September they amounted to 257. After this period they rapidly decreased, so that on the 18th December, there was not a single death from the disease in London. The cholera of 1832 thus had a duration of *ten months* in the metropolis, reaching its first maximum period of mortality in the first week in April, or in the *second month* after its outbreak, and its minimum on the 19th May, *i. e.* at the period of the year at which it has been recently announced we are to expect a great increase of the disease! It reached its second maximum period of mortality about the end of August, 1832, and then rapidly attained a second minimum on the 18th December, after which it ceased. According to Dr. Copland, during this ten months' visitation, the cases were 11,020, and the deaths 5273. In four months of the present visitation, (*i. e.* to Feb. 2), there were only 834 cases, and 479 deaths; and when we consider that since 1832, no fewer than half a million of inhabitants have been added to the population of the metropolis, this comparatively small number of cases and deaths may be regarded as a very favourable indication. In fact, the metropolitan returns show that in 1832 cholera proved fatal in this metropolis to as many persons during the first *six weeks* after its appearance, as in 1849 during the first *four months!*

On the whole, we think that the very slow progress of the cholera in the metropolis during a period of time in which in other localities, and in London itself in 1832, it had attained its maximum mortality, is well calculated to reassure the minds of the public. It is quite within the range of possibility, that during the summer months the disease may become much more prevalent and fatal than it has hitherto been, but on this subject all is darkness and mystery. We are unable to form any certain conclusions respecting the causes of the increase or decline of this remarkable disease. For any thing we know, the period of minimum mortality in 1832, *i. e.* the month of May, may become the period of maximum mortality in 1849; but there are no certain medical grounds from which this can be predicated. At the same time, we believe it would be difficult to find any instance in the progress of cholera in which the disease had existed in a large and crowded city for the long period of *four months*, producing not more than one death in four thousand of the population, and had afterwards suddenly burst forth with intensity: such a case is possible, but on the other hand we may continue to enjoy the benefit of our exceptional position. These remarks are not made under the idea that we should in any degree relax our efforts to improve the drainage and ventilation of our streets and alleys, as well as the dwellings of the poor, but rather to show that our prospects regarding the cholera are not so unfavourable as they have been represented.

In another part of this number* our readers will find a copy of the will of a somewhat eccentric member of the medical profession. Dr. Swiney was not known while living, beyond his own immediate circle; but his will is now likely to gain for his memory that reputation which is usually awarded to philanthropic testators. The first impression which arises in the mind on perusing this singular document, is that the testator must have been insane. We pass over for the present the Swiney endowment for a geological lectureship, and the other bequests which are commonly found in the will of a man who has no heirs,† and who hardly knows how to dispose of his accumulated wealth,—in order to examine those clauses which appear to indicate insanity. In the will itself, dated in 1831, there is nothing to call for particular notice. The Swiney prize of a *silver goblet*, of the value of one hundred pounds, *containing gold coin* to the same amount, may be regarded as a singular form of bequest for a highly useful purpose, *i. e.* of stimulating agriculturists to the cultivation of waste land. The nature of the bequest, however, indicates nothing more than eccentricity. It furnishes no evidence of *delusion* in the mind of the testator, but merely a morbid love of notoriety, and a desire of carrying out a philanthropic intention in an odd way. More than four years and a half afterwards, the codicil, which presents many singular features, was drawn up; and from the admission of this to probate, it appears certain that the testator had not in the interim conducted himself or been treated by his friends as insane. He evidently had the free control of his own affairs. We here find a partial revocation of the bequests in the will. Specified sums are bequeathed for publishing an odd mixture of works which were not likely to find either purchasers or readers; but Dr. Swiney is not the only medical writer who has put a false estimate on the value of his own literary productions. The sum which he bequeathed for this purpose was probably quite inadequate; but this may be fairly set down to ignorance. The limitation put on his funeral expenses is indicative of nothing unreasonable; but the order that his pall should be of yellow cloth,* and the coffin covered with the same coloured cloth, may appear to show unsoundness of mind. The same may be said of the clause of the codicil which specifies that his coffin should be preceded by *three little girls dressed in white*, and of the order that the jurisprudence-prize should be adjudged by the members of the Society of Arts, and Fellows of the College of Physicians, with the *wives* of such of them as were married; but when we consider that the testator lived nearly nine years after making this codicil to his will, and there is no evidence that he was at any time regarded or treated as a lunatic by those who knew him, it is obvious that we are rather dealing with an eccentric, than with an insane testamentary disposition. These singular bequests indicate great oddity of character, vanity, and a desire of posthumous notoriety; but *no delusion*. The substance of his property is left by the testator for reasonable and benevolent purposes; and his eccentricity is shown in minute and subordinate points which do not affect, or only to an unimportant degree, the general dispositions of the will. It would be easy to produce a number of wills containing provisions much more extraordinary than these, but which have nevertheless been admitted to probate as those of sane testators. There is a well-known case reported,* in which the will of a man who had bequeathed his property to a mere stranger, was disputed by his heirs, on the ground of insanity; and the terms of the will were relied upon as proof. In one clause it appears he directed his executors "to cause some parts of his bowels to be converted into fiddle-strings," and others "to be sublimed into smelling salts;" while the remainder of his body was "to be vitrefied into lenses for optical purposes!" Sir H. J. Fust, in giving judgment, decided that there was a total failure of proof of insanity, and that the facts amounted only to eccentricity. The testator had conducted his affairs during life with shrewdness and ability,—those who had had dealings with him had always treated him as sane; and therefore the introduction of these absurd notions into his will could not affect his disposing power. For a similar reason we may regard the singular provisoes in Dr. Swiney's will, as proving the eccentric opinions and views, but not the insanity of the testator. The boundary between eccentricity and insanity cannot be clearly defined; but the main feature of the will of a really insane person is, that there should be clear evidence of *delusion* throughout, affecting the objects and intentions of the will, and rendering the provisions different from those which might have been reasonably expected from the testator. The will of an eccentric man will almost necessarily present marks of eccentricity; and those who have known him during life are not surprised to find that his whims and oddities appear in the mode in which the various bequests are made.

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* Page 305.

† Dr. Swiney was, we understand, an illegitimate child.

* We understand that the pall actually used at the funeral was lined inside with yellow cloth, but, in accordance with common usage, it was black on the outside.

If we are to be guided by numerous precedents, it does not appear at all probable that Dr. Swiney's will would have been set aside, had it been disputed, on the ground of insanity. As it often happens, however, with scientific bequests, the real wishes and intentions of the testator are in this instance defeated, owing to carelessness in the construction of the clauses respecting the prize and geological lectureship. This allows the funds to be *legally* diverted to other purposes than those really intended,—a subject which we shall reserve for consideration at another time.

THERE is no marked increase of Cholera. The fatal cases are so few as to need no special record. Although still very prevalent in Scotland, it appears to have lost much of its fatality in Glasgow and other heavily-visited towns. It is also satisfactory to be able to announce that the disease does not appear to make that progress in Ireland which had been anticipated.

The number of cases and deaths up to the 14th inst. are as follows:—

	Cases.	Deaths.
London . .	1020	541
Provinces .	884	386
Scotland . .	9937	4330
	11,841	5257

SOCIETY FOR THE RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN IN LONDON AND ITS VICINITY.

THE Annual Dinner of this Society is appointed to take place on Saturday, the 21st of April. H.R.H. the Duke of Cambridge, the Patron, has graciously consented to take the chair.

A legacy of £500 has lately been paid to the Treasurers by the executors of the late Thomas Spencer, Esq., of Myddleton Square, Pentonville.

The Secretary has also received, from an anonymous benefactor at Oxford, a packet of books, "to be disposed of for the benefit of the Society."

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* Case of Morgan *v.* Boys, 1838.

THREE LECTURES ON CHOLERA,

Delivered to the Students at St. George's Hospital, February 1832.

By Wm. Frederic Chambers, M.D.
K C.H., F.R.S.,
Physician to the Queen and Queen Dowager.

Lecture II.

Mode of arriving at rational treatment—Indications afforded by the state of Collapse—Congestion—Spasm—to be fulfilled by stimulants, internal and external—Depletion, with the object of giving mechanical relief—Antispasmodics—Calomel—General caution with regard to treatment—After-treatment—Secondary fever—Prophylaxis—Causes of cholera—Meteorological—Electrical—Miasmatic—Astronomical, &c.—Popular view of the subject.

It is now time to turn ourselves to the consideration of that which is indisputably the most important part of our subject,—the treatment of the disease.

It would be easy to fill a volume with a simple enumeration of the various remedies which have been proposed. Some have their origin in an attempt to cure the disease by alleviating one or another symptom; others are brought forward by practitioners who look for their ratio medendi to the examination of bodies after death. One would attack the spasm or the livor, or the discharges of watery fluid; another, finding the intestines smeared with white viscid matter, seeks a solvent for this; a third sees the gall-bladder distended with bile, and thinks only how he might have emptied it by the use of some vigorous specific, or, looking at the black veins of the mesentery and portal system, is haunted by this phantom of inflammatory action, and takes refuge in bleeding alone as a cure of cholera: a more industrious anatomist removes the cranium, finds some superabundant serosity and congestion of the vessels of the brain, or in the meninges of the spinal cord, declares himself satisfied that this alone is the cause of the evil, and prepares to attack it with energy when the next opportunity offers.

Now I am convinced that no researches conducted in this spirit will ever lead those engaged in them to any satisfactory result. To enable us to arrive at rational treatment, diseases must be looked at during life in well-marked cases; their symptoms must be viewed as a whole and not separately, the effects of agents natural or artificial in modifying their process must be noted, and if they prove fatal the body must be examined after death, not with an intention of finding whether the disease is seated in this or that viscus, but throughout, in order to decide what are the contingent and what the constant appearances of the various parts. On the facts thus elicited we must bring to bear the combined forces of physiological science and all the pathological analogies which we can muster, in order to deduce from the phenomena thus viewed in all their integrity, sound and philosophical principles of action.

Now it is evident from what has gone before, that cholera is for us a disease of collapse, for, although, as was mentioned, an obscure and transient stage of excitement preceded the development of the striking symptoms, we are seldom called in until animal heat is failing, and the powers of the secreting organs ceasing under the morbid influence. The first indication, then, to be fulfilled, is that which calls on us to counteract such a state by all the direct stimulants in our power: to rouse, in fact, not only the dormant forces of the nervous system, but to induce the heart to put into active motion the blood which is stagnating in all the internal vessels. A second indication is one which may at first sight appear opposed to the first, but which the object intended to be effected by it in this disease classes as an important adjuvant. We must, where the collapse is not relieved by the direct stimulants applied, detract blood from the system, and thus succour the labouring heart by relieving it of part of the load to which it is striving in vain to give adequate motion. Another indication is supplied by the spasm, which, though it belongs to the second stage, still in severe cases occurs almost contemporaneously with the symptoms referred to the first. These indications, stimulant, depletory, and antispasmodic, include the application of all the remedies which are useful in an attack of pure cholera, but not all those necessary for the removal of its secondary consequences, whether they turn out to be mere bilious and intestinal derangement, or put on the more serious form of remittent or typhoid fever. The treatment of these will follow in order after a few remarks on the three principal indications which I first mentioned.

Stimuli should be applied both internally and externally. Of the internal, the principal are ammonia, æther, brandy, or any spirit of equal strength, camphor, and the warm essential oils, especially those of cajeput, peppermint, and cinnamon. To these I will add a most important agent, opium, which is calculated to meet this as well as the third indication, inasmuch as it is both an active stimulant and powerful antispasmodic.

Of course the modes of administering these stimuli may be varied almost infinitely; it will suffice to say that where liquids can be made to remain upon the stomach it is better to exhibit remedies in this than in the solid form. As a general rule I should advise the administration of forty minims of tinct. opii. in an ounce of brandy and an equal quantity of hot water. Half this dose may be repeated every 30 or 40 minutes until the third dose has been given, after which it will be better to pause for an hour. In the intervals ♏x. of oil of peppermint or of cajeput may be given on a lump of sugar, or diffused in barley water, or an æther draught, or ʒj. of salvolatile. Should the stomach not retain liquids, a corresponding quantity of opium may be made up into pills with camphor, and given every half hour. As soon as the stomach is tranquillized, gr. x. of carbonate of ammonia may be given in camphor julep, or an effervescing draught of citrate of ammonia in which the carbonate is in excess, every half hour.

With respect to external stimuli, one thing must be borne in mind in the administration of them: the patient, being in a state of extreme exhaustion, runs great risks from being moved, especially from being placed in any but the horizontal position.

The danger, therefore, attendant on the removal of a patient into a hot water bath, independently of the inconvenience and delay arising in the administration of the remedy, have brought into general use the vapour and hot air baths. The temperature must be regulated by the state of the patient; one suffering extreme cold and collapse must be subjected to much lower temperature than if in a less abject condition, and as he revives, the warmth of the bath may be increased.

A person attacked with cholera should be instantly placed in a warm bed, frictions with hot flannel should be used to the surface of the body, bags of hot sand or salt should be applied to the extremities. The region of the stomach should be strongly stimulated, or rather irritated; in such an emergency blisters are much too tardy in their operation, and on this account mustard cataplasms are preferable as applications for the epigastrium. Certain severe remedies have been recommended by some to accomplish rapidly the same object; strong nitric acid, and boiling water, have been proposed to be applied to the abdominal parietes. It is true their topical effects are quick and violent, but they have not the same power of resuscitating the vital energies as mustard, strong camphor liniment, or oil of turpentine. Besides which, the dangerous sloughs they are likely to leave behind are no trifling objection to their use.

In mild cases the foregoing expedients will be found sufficient to re-establish the circulation and animal heat without the assistance of the means next mentioned. In the severer forms of the disease, however, stimulants administered alone fail of their effect until the detraction of blood has relieved the congestion of the vascular system, and re-established the action of the heart. The relief thus afforded is strictly mechanical, directed solely to obviate the disadvantages under which the circulating centre is labouring, from the great column of blood pressing upon it. Under the imminent peril arising from this condition, such a remedy as venesection is indeed justifiable; but while employing it, we must not forget that we do so at the risk of increasing the rapidity with which the vital energies are ebbing in other quarters—I mean in the brain and nervous system generally. The employment, therefore, of such a remedy must cause great and anxious solicitude to the practitioner, who is called upon to decide whether the advantages to be expected from it are enough to counterbalance the probable increase of debility and peril. Any guiding ray on such a subject is of unspeakable value. It has been observed, by those who have treated cholera in India, that natives bear bleeding very ill, and often sink under its use unless great caution is used; whilst Europeans are for the most part benefitted, if not saved, by the bold employment of the lancet. From this may be deduced the practical conclusion, that in proportion as the vital powers of the brain and nervous system are energetic in an individual, in the same proportion advantage will probably be derived from the detraction of blood, and the disadvantages to be feared will be less.

It would be worse than useless to lay down any rule as to the quantity of blood to be taken, as this must depend in every case on the effects produced by its detraction. From the symptoms exhibited by the system during its flow, we must judge of the propriety of allowing it to continue. It has been observed commonly, that if the blood flows at all we may promise a probability of safety to the patient, and that as it loses in flowing its pitchy aspect, and puts on a brighter, ruddier hue, we may speak with more and more confidence of the restoration of the healthy balance to the circulation.

The resuscitation in these cases corresponds exactly with that which followed the loss of blood from opening the thorax in the animals poisoned by tobacco in Mr. Brodie's experiments. In both it appears to depend on the relief afforded to the heart, overpowered by the mechanical weight of a stagnant column of blood.

The third indication which we mentioned as the foundation of the treatment of this disease has yet to be considered. This, as was said before, applies rather to the secondary than the primary effects of the choleric poison, being directed against the cramps, which in many, though not in all, cases so much aggravate the sufferings of the patient. Much of what might have been classed under this head has been anticipated when speaking of stimulation; inasmuch as most of the remedies most active as antispasmodics are also amongst our most efficient stimulants. In fact, if opium, camphor, and æther, are required as excitants in the early stages of the disease, they are still more imperatively called for when spasms present themselves, and must be given even more boldly in the latter than in the former case. It is to meet this indication that the power of an agent which we have not yet mentioned is to be called in to our aid—I mean calomel. There is in truth no medicine known which possesses a more distinctly sedative action when properly administered, and at a fitting period, in all those diseases in which disturbances in the portal and mesenteric circulation have thrown the stomach and bowels into painful motion, and of which the spasmodic stage of cholera exhibits so frightful an example. Upon this principle it is that full doses of calomel, doses I mean of from ten to twenty grains, may be administered in urgent cases, and smaller quantities in those of less severity, and repeated every three or four hours, in conjunction with, or immediately after, the antispasmodics just enumerated.

Such, then, is the treatment I would advise you to pursue in cholera morbus, and the principles on which it is based are equally applicable, with proper modification, to every variety of the disease, whether British or Russian, Asiatic or European, slight or severe, simple or compound, attended by the complete series of symptoms described, or nosologically deficient in one or more of these characteristics. Slight cases will yield to moderate doses of the remedies prescribed, and will often give way before the stimulant treatment without calling for loss of blood, while the severer ones will baffle the boldest efforts which the practitioner may feel justified in making. I say "may feel justified in making," as this leads me to offer a caution respecting the excessive use even of legitimate expedients in meeting the terrific symptoms displayed. We must be careful in administering medicines while the patient is in a state of collapse not to allow active remedies to accumulate in the stomach to such an extent as to overpower the vital energies by their agency, as soon as any reaction takes place. This accident has, I fear, been no rare one in times of panic. Mr. Bell says (p. 111)—"one gentleman of my acquaintance was rendered seriously unhappy because a servant, suspected to be labouring under cholera, to whom in a few hours he had given 500 drops of laudanum, died evidently from the effects of that medicine." It is easy to conceive similar evils arising from the superabundant exhibition of stimulants.

In the majority of the patients who are fortunate enough to get over the violence of the attack, the intestinal canal and accessory viscera retain some recollection of what they have gone through, and require at least some gentle management for a short time; as, for example, alterative doses of mercury, combined with mild aperients, such as evacuate without purging, and possibly the milder tonics, cascarilla, cusparia, or calumbo, to restore the vigour of the constitution. But not rarely there is a more formidable sequel; the patient is doomed to struggle towards health through a fever of the typhoid type. As a general rule, it is the very severe cases for which this consequence is to be feared; yet the exceptions are very numerous, and some even of the slightest attacks will lapse into a febrile condition of considerable danger; and again, some of those who have barely survived a fearful crisis of spasm and collapse, will tell you immediately afterwards, that no bad symptoms but a little soreness and weakness remain.

The proportion of instances in which cholera is followed by secondary fever appears to vary widely in different countries, or in different districts of the same country, and likely enough is different in different years. In the presidencies of Bengal and Bombay it has been found much larger than in Madras: so much so, that in the official reports of the two former, the secondary fever is described almost as part of the disease; whilst in Mr. Scott's accounts from Madras, it is mentioned, indeed, but slightly, and as an accidental concomitant or consequence of the primary attack. In Russia, and, indeed, throughout the continent of Europe, it appears from the statements of eyewitnesses that the secondary fevers are much more common than in India; so that a large number of cases exhibited scarce a symptom of cholera, except the collapse, and passed into the fever which was epidemic at the time. In the North of England and South of Scotland, almost every case which has escaped death has had secondary fever.

I will not detain you by dwelling on its treatment, as it differs in no wise from that of ordinary remittent or typhoid fever.

I have endeavoured in the foregoing remarks to convey my own impressions as to the reasonable modes of meeting the symptoms of this formidable malady; and I believe, moreover, that those cases which are incontrollable by such means, are beyond the reach of any medical aid.

With respect to prophylaxis, few words need be said,—cleanliness of habitation, cleanliness of person, free ventilation, efficient drainage, include all that is necessary to observe as to surrounding objects. Equally short and obvious must be our advice on the management of the internal system. The animal nature best calculated to resist noxious influence is one as perfect as possible, most ready for ordinary duties, equally distant from plethora and inanition, from obesity and emaciation. The diet should therefore be simple, and moderate in quantity; not newly devised, lest the stomach resist the innovation, and become deranged; not too accurately weighed out, or no scope will be allowed to daily varying demands of instinctive appetite; but such a modification of his ordinary food as each sane man, freed from the idols of theory and fear, knows without consulting a physician to be best for his health. The repose and exercise should of course be moderate, regular, and sufficient: the bowels should be emptied regularly, and, indeed, all the portals of excretion kept unimpeded; as obstruction of their functions, a fertile source of all kinds of derangement of the economy, must be especially to be dreaded, when atmospherical and other influences are rendering common a disease whose clearest characteristic is visceral congestion.

The *causes* of cholera—I mean the exciting causes—remain to be adverted to, and it is a portion of our subject the consideration of which is attended with difficulties of no ordinary character. The sources of the disease have been sought for by physical philosophers of every class, the votaries of chemistry and meteorology, botany and zoology; and all have been equally unsuccessful in attaining their object. This want of success is, as appears to me, the reason why the opinion of its propagation by contagion has been so willingly adopted by the public, and a large portion of the profession; for the believers in this fascinating doctrine are obviously at once absolved from all laborious investigation of the precise nature of the malady. They have no inducement to endeavour to ascertain whether any peculiarity in the state of the atmosphere, any miasm or effluvium from the ground, any particular vicissitudes of temperature, any phenomena connected with the electric state of the air, or the currents of terrestrial magnestism, may probably be the agents of its production; they have only to occupy themselves in the operation of tracing it from the individual who is suffering, to another who has already suffered, with whom he may have recently consorted, or may be reported to have approached; and, as soon as this point is made out, no further need exists for perplexing their minds with scientific disquisitions as to the nature of the morbific virus.

I must confess that the success attending any of the researches into this branch of our subject which have been as yet instituted, have not been very encouraging. If we look to meteorology for some elucidation of the point, we only learn that the seasons, previous to the great eruption of the disease in 1817, had been very irregular; that the country had been deluged with rains, which had continued for a much longer period than usual, and that they had been accompanied storms of unusual violence. It was during this stormy weather that the epidemic is stated to have raged most fiercely in the East. In other parts, however, it was observed to be most prevalent in the sultry and oppressively dry weather which preceded the setting in of the rains—circumstances which Mr. Orton* asserts prove the connection between the cause of the rain, and the cause of the disease, and show that simple moisture is not the deleterious agent. In fact, there are reports in abundance from places where the disease was prevalent in raw, cold, and wet, as well as in warm, dry, and close weather, even in India; and the point has been sufficiently made out by its raging between the years 1817 and 1832, in almost all parts of Asia and Europe, in all weathers, and under every variety of temperature and season. One deduction from the testimony adduced admits of no doubt—namely, that in every country which has been scourged by the disease, the air has been unusually charged with electricity, as has been evinced by the extraordinary occurrence of thunderstorms and hurricanes, at unusual seasons, and of frequent and severe earthquakes in the countries where such phenomena are common.

With respect to the peculiar character of the electricity with which the atmosphere is charged under these circumstances, Mr. Orton's chapter on the primary cause of the epidemic will amply repay a perusal. It will suffice now to mention the results of his investigations. It appears that the air most favourable to the production of cholera is in a highly rarified state, and with respect to its electricity is negative, a phenomenon which is in ordinary times a sure prognostic of storms; for whereas under ordinary circumstances the electricity of the air is positive, whenever it is observed to change to negative, it is certain that rain, snow, hail, or mists are in the neighbourhood, or that a thunder cloud is near. On the basis of this circumstance is raised a theory, which at any rate has the merit of ingenuity, and which is followed out to its consequences in the chapter just quoted from Mr. Orton's book—viz. that as when we deprive animals of their positive electricity, by connecting them with the opposite pole of the galvanic battery, they soon die and decay, so the negative atmosphere to which the human body is exposed during the prevalence of this epidemic constitution of the air deprives them of their power of resisting decomposition, or gives an unnatural strength to the chemical processes ordinarily going on in the interstitial structures, which overcomes the vital functions, and produces the collapsive stage of cholera morbus. There appears to be some connection, to trace which might possibly lead to interesting results, between the facts just alluded to, and the state of the blood—namely, its deficient quantity of alkali, mentioned at the conclusion of the last lecture. The well-known speculations of the ingenious Dr. Stevens, though the rules of practice deduced from them will, I fear, not bear the test of empirical proofs, yet seem to foreshadow some important fact. A variety of other concomitant circumstances have been fixed upon as the causes of this extraordinary malady, and some of them seem reasonably enough suspected to be important as agents in its production. Miasmata, for instance, from marshes, especially when combined with fetid exhalations from decayed animal matter, as in ill-cleansed sewers and cesspools, have been observed to produce malignant and fatal diseases, marked by the characteristics of cholera morbus. Hence it has been said to have maintained itself on the banks and the swampy confines of rivers, and in towns and villages near them, especially in those notorious for filth, arising from the habits of the inhabitants, for closely-packed houses, and deficiency of the sewerage necessary for carrying off the unavoidable accumulations.

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* Essay on the Epidemic Cholera of India.

That the disease is most prevalent in such places is undoubted, but that it also rages in situations which do not afford such clearly ascertained agents in its production as the above, is equally indubitable. If it is to be traced to miasmata in districts of greater apparent salubrity, we must be ready to assert, that although uncovered drains and cesspools are capable of producing it, yet at least that the offensiveness to our organs of smell of such effluvia is not necessary to their exerting these deleterious powers; but that they may most injuriously affect the human body, either by containing a poison so subtle as not to be cognisable by our senses even when assisted by scientific apparatus, or that they are active in a very dilute state: were it not so, fetid smells and cholera would invariably go together, which is certainly not the case. Similar arguments may be applied to the reasoning which would trace its origin to rancid fish, bad rice, and other vitiated articles of food. I can do no more here than allude to the animalcular or insect theory, the only ground of which is the accident of its spread having occurred through the globe in a similar direction with certain forms of animal life, which are more common some years than others.

Sol-lunar influences are much dwelt upon as modifying or aggravating cholera within the tropics. They would seem to be more powerful in those countries than in our clime, in their effects both over this and other diseases, for here observation cannot assign any power over the human body to the changes of either sun or moon.

I said before, that if we adopt the *popular belief* respecting the origin and propagation of the disease, we may absolve ourselves from all elaborate researches concerning other agents, except inasmuch as they may be considered predisposing causes of the malady under consideration. Let us first, then, get a clear notion of what the prevailing belief on the subject is. It would appear to be as follows:—That a new and extraordinary disease, at least a disease which had never been before described, or before prevailed as an epidemic in any country, broke out at Jessore, a populous town in Bengal, situated in the centre of the Delta of the Ganges, on the 28th of August, 1817; that it reached Calcutta a few days afterwards, and also radiated from Jessore in all directions, so as to assail almost contemporaneously the towns of Chittagong to the South East; Dacca and Silhet to the East; and Malda and Patna to the North West. From this time it is said to have moved as it were in several great streams, one of which, stretching to the north westward from Calcutta, reached Mirzapore, near Allahabad, about the middle of November, and attacked the grand army of Lord Hastings, which was encamped on the banks of the Scinde, in Bundlecund. Of this body of troops, amounting to 11,500 fighting men, 764 fell victims to the epidemic in the week of its greatest virulence, besides many thousands of the camp followers (natives), who were innumerable. This army changed its grounds to the elevated banks of the Belway, at the end of seven or eight days from the breaking out of the complaint. The line, however, which the disease had taken in this direction is marked as having been extended to the city of Delhi, and afterwards to have traversed the whole of Independent Tartary, until it reached, at the end of the year 1828, Orenbourg, a town in the Russian Empire.

Another great line along which the malady is believed to have spread from Jessore, is that by which it passed into the presidency of Madras, and extended its ravages through the Peninsula of India. By this track it is described as having reached Ganjam, on the Coromandel coast, on the 20th of March, 1818, and arrived at Madras by the coast road on the 8th of October, 1818, and Travancore at the beginning of January, 1819, to which place also it arrived at the same time precisely by a totally different route; for by some means or other it had conveyed itself to Sunda in September, 1818; to Calicut in October; to Cochin in December; and to Travancore in January, 1819; and beyond this to Colombo, on the west coast of Ceylon, although almost all the intercourse between India and Ceylon is carried on by Trincomalee, which is on the opposite side of the island. This line of March, however, in its progress towards Cape Comorin from Ganjam, threw out branches, by which the disease is alleged to have passed into the interior, and to the opposite coast. A reference to any of the maps will show the distribution of these routes. It will suffice to say, by this means it visited almost all parts of the Peninsula, and reached Bombay on the 14th of August, 1818. We will leave the disease here for a few moments, merely to state shortly that from Jessore it is described as having spread by the circuitous route of Sumatra and Java to the countries directly eastward and north-eastward of Bengal, and then to have assailed the Celestial Empire, having arrived at Canton in 1820, but not reaching Macao (which is at the mouth of the Canton river, and which it ought to have previously ravaged) till 1823, and Pekin and the northern parts of China in 1824.

Before we return to Bombay, we must mention one other digression of the disease, which is stated to have been conveyed by the "Topaz" frigate from Trincomalee to the Mauritius and Isle of Bourbon, two small islands in the Indian Ocean, off the east coast of Madagascar.

But to return, as we proposed, to Bombay. From hence it spread, as from a new centre, not only to the neighbouring districts across the Arabian gulf to Muscat, but traversed Persia, having destroyed many persons at Shiraz and Ispahan, and arriving in the centre of Persia in 1822. It is said, however, that, owing to the strict quarantine established at Teheran, the residence of the Shah, by the exclusion of the caravans, it did not reach that place until 1829 or 1830. It passed out of Persia into Georgia, but not until an extraordinary interval of time; for although it appears to have been at Tauris in 1822 (September), it did not commence its ravages at Teffis, in Georgia, until the 20th of July, 1830. It reached Astrakan, a large town on the Volga, near its opening into the Caspian Sea, on the 30th of July. The rapidity of its progress up the Volga was very extraordinary, inasmuch as it reached Kasan, 250 leagues from Astrachan, on the 9th of September. These places are all on the banks of the Volga, and are said to have been affected by the barques which came up the river from the Caspian, and it reached Moscow, which is 320 leagues from Astrachan, on the 26th of the same month.* The disease, however, not long after leaving Astrachan, made a detour to the south coast at Donskaia, where the Volga approaches the Don: although flowing in an opposite direction, the latter, in its course towards the Black Sea, conveyed the disease to Crimea, and thence to Odessa, from whence also it stretched into Hungary, and desolated that country to a frightful extent. From Moscow (to return to that line of march) it travelled to Archangel, a port on the White Sea, and reached St. Petersburgh, not by the roads, but by the Volga, on the 14th of June of the following year, 1836. Riga it invaded in May, 1831, and, having committed dreadful havoc amongst it inhabitants, and desolated successively the towns of Wilna in Lithunia, Warsaw, and Cracow, Limberg, Bude, and Vienna, by another route it attacked Berlin and the neighbouring districts, whilst it branched off by a new path to Dantzic, a port of Prussia, on the Baltic. This latter route is particularly interesting to us, as it is supposed to have been communicated by means of it to Hamburgh in the autumn of last year, from whence it passed over to Sunderland; from Sunderland, at which place it arrived on the 28th of October, it has, as you all know, not only spread to the neighbouring towns of Shields and Newcastle, but is said to have heavily scourged the villages surrounding the towns, particularly those on the banks of the Tyne. Its progress from Haddington to Musselburg, and from thence to Edinburgh, and its invasion of Kirkintulloch and Glasgow, and ultimately its appearance in London (in Rotherhithe and Limehouse) on the 11th of this month, are occurrences of a date so recent, that I need not dwell on them at any length.

I shall commence the next lecture with a critical examination of the claims which this view of the subject has upon our belief.

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* The Moravian colony on the right bank of the Volga (Sarepta) is said to have escaped by quarantine, although M. Latrobe avers that no quarantine was enjoined.

Reviews.

Man and his Motives. By George Moore, M.D., Member of the Royal College of Physicians, London, &c. 8vo. pp. 406. London: Longmans, 1848.

We have already had occasion to speak favourably of two works published by Dr. Moore,—on the "Power of the Soul over the Body," and on the "Use of the Body in relation to the Mind." The former has reached a fourth, and the latter is now in a second edition,—facts which prove that the author's labours have been duly appreciated by the public. The present volume may be regarded as a continuation of the subject: like the others, it is addressed as much to the public as to the profession. The title, "Man and his Motives," is sufficient to show that the work is not strictly speaking medical, but of a mixed moral and theological character. The author, however, does not fail to make use of his professional knowledge; and in this he has considerable advantage over purely theological writers, in being enabled to support his views by facts derived from the study of the human organism. For this reason the book will deeply interest those medical men whose minds are given to metaphysical research; and it will be of especial utility to the junior members of the profession during their studies, by furnishing them with an antidote to those free-thinking principles which have led many to believe that we live and move, and have our being, from the mere result of a series of physical and chemical changes which are constantly going on in the system.

Since the appearance of the "Vestiges of the Creation," which, like "Murphy's Weather Almanack," had its run of popularity, there has been a disposition on the part of some pseudo-physiologists to work out the "progressive development theory"; and in his first chapter on "Man primitive and derivative," Dr. Moore takes the opportunity of laying bare the absurdity of these extravagant views. These physiotheorists have endeavoured to make out that man is only a "paulo-post chimpanzee," and that infusorial animalcules, now in a progressive state of development, will constitute the human race of future ages: in short, that man is nothing more than "an expanded monkey," and a monkey an expanded monad. There is one difficulty to the admission of such views—namely, that the transformation has never yet been observed in process, and Dr. Moore suggests another which carries with it some weight:—

> "Physiologists persuade us that they have proved that the Caucasian is the highest variety of man, and that the descending scale from this is the Mongolian, American, Malay, Negro. If this be true, does it follow that man came from his Maker's hand as a Caucasian rather than a negro? Surely it is more consistent to suppose that man was made in his highest form at first, and that he afterwards degenerated in his habits and cranial development, than to suppose that he improved upon his Creator's workmanship, and raised himself from the lowest type to the highest." (p. 11.)

The absurdities into which this hypothesis must lead its supporters, are strikingly exposed in the following extract:—

> "The philosopher ascribes the production of man to sea-mucus, or, to use chemical language, to hydrated carbon. From this, he asserts, all organized beings have originated, and, by *self-elevation*, issued forth into higher organisms. Thus, creative will is dispensed with, and man, like all the rest of moving things, grew up of his own accord, from the *infusorium* of a putrid sea-mucus. There stands the word, and there the fact—"Male and female created *He* them." If it could but be proved that there is no God, and that He did not create male and female, this theory would not be half so wonderful; but that, with the definite mixture of heat, light, carbon, and water, in some certain time and certain place, two of each kind, male and female, of all the myriads of animated beings, should have sprung up as a natural matter of course, and that only *once*, is very marvellous indeed, since we can see no reason why what has emerged from the shallow and warm sea should not emerge again. Sea-mucus is under as favourable circumstances for forming a man as ever, both in the west and in the east, or otherwise man and mucus could be scarcely existing in the same globe together. Whence can the organic have originated but from the inorganic? asks the philosopher again. We reply, Could not God create both?" (p. 18.)

The chapter on "Mental Manifestation" is of great interest. Of *Idiotism* the author remarks:—

"Even in its worst forms it is somewhat amenable to kindness and to skill. Whenever a human soul can be reached by another, so as to feel a good intention, there is an improvable being. As long as the organization of the senses and their associate brain are not so imperfect as to prevent connected attention to objects, it is in the power of one man to elicit the light hidden in another; and many men, seeing this, and devoutly loving human souls for love's sake, have set themselves with patience to the task of redeeming idiots from the hideousness of confused instincts, undirected and without aim. By persevering efforts in attracting and fixing their attention steadily and sympathetically to the actions of their teachers—teachers, so to say, by contact,—multitudes of such forlorn beings have been brought into smiling association with humanity and reason; thus proving that those left to neglect and ill-treatment must be the pests and terrors of social and domestic life, until the unconquerable philanthropy of practical wisdom and charity is brought to bear upon them, and bring them forth from degradation into rational relationship. If asylums for idiots had done nothing more than teach us that beautiful souls may lie completely concealed under disgusting coverings, they have done much; but they have also taught us that the might of patience, sympathy, and kindness, is greater far than the world yet knows." (p. 125.)

As to the mode of treatment :—

"Mere coercion fails, even with an idiot; the mind is not brought out into intercourse, except by a strong will dominating over it by engaging it agreeably. The state of the body is a state of will, in as far as it tends either to pleasure or pain; and if the mind be perverted by an ill state of the body, the only way to recover it from wrong desires is to command attention to other perceptions than those produced by the disorder or ill condition of the body, or of any of its organs and functions: a new state of will must be induced. This is exemplified to the full by M. Sequin's treatment of the perverted and disordered idiot. He first governs the idiot's muscles for him, by putting himself in the idiot's way, as so to say, his only object. All the senses the poor imbecile may possess he confines to his own movements; he masters the forlorn being by infusing a new will into his limbs; he takes hold of them gently and firmly, and slowly moves them as he wishes, consecutively, and for the attainment of certain ends. Thus the mindless, purposeless stupid moves with his master until his muscles are educated into associate action." (p. 127.)

In the chapter on "Association," Dr. Moore justly observes, that one good effect of the social principle is to do away with that selfishness which naturally exists in us; and he cites the following incident in proof of it :—

"This is exemplified in the case of S. Jackson, who lately died in St. Thomas's Hospital. He was employed with several others in sinking a shaft for a railway tunnel at Blackheath. He was at the top of the shaft, which was forty-five feet in depth, and had drawn up with a windlass a pail filled with water, when, while in the act of tipping it over, he fell back. He immediately called out 'below!' and thus warned those in the shaft, who saved themselves by moving on one side as he fell in the midst of them. Thus the safety of others was a consideration with this poor man in the very moment of his deadly peril." (p. 178.)

The censure contained in the subjoined extract is applicable to a great number of writers, medical and non-medical :—

"Men, from an affected mannerism, or from aiming at peculiarity, or from too artificial a training, disjoint their language in a great variety of ways. Some in pursuing thoughts forget harmony, while others seem to set their ideas so completely to music, that their hearers or readers are apt to lose sight of the subject in listening to the sweetness of the melody. Occasionally we find a man who speaks and writes as if his soul stuttered, so as to form a hundred periods in a page. The jet from the fountain comes in fits so many times a minute. The conjunctions are all disjunctive: it is as if a long piece of music with all its variations should be staccatoed throughout with a rest at every bar; however emphatic, it is apt neither to be understood nor remembered. Others take no breath, and rush on like a cataract, confounding the waters of life into foam. Sober reason instinctively adopts the medium, and measures her eloquence by the nature of the subject and the state of feeling proper to the occasion." (p. 183.)

Our readers will judge from these extracts of the nature and the objects of Dr. Moore's essay. We shall only remark that it is highly creditable to the author, and a fit companion to the two volumes which have preceded it.

An Essay on some of the most important Diseases of Women, &c. By W. JONES, M.D. Pamphlet, pp. 40. London: Baillière. 1848.

THE object of this pamphlet is to suggest to the profession, and to *females*, a simple method of applying medicated lotions, or water for hygienic purposes, to the vaginal passage. It is well known that the common syringes and bottles used in the local treatment of leucorrhœa are, for the most part, inefficient; while they are at the same time so expensive as to place them beyond the reach of a large class of females who suffer from these disorders. Dr. Jones has given to his invention the name of the Syphon Douche. He believes that it will be extremely serviceable, not merely in the treatment, but in the prevention of those vaginal discharges so common among females, which have their origin in local irritation. It consists of nine feet of gutta percha tubing, about one-fifth of an inch in diameter, divided into two parts, the one seven and the other two feet in length, capable of being secured by a union joint, and, if necessary, commanded by a stop-cock. The upper end of the tube is immersed in a vessel containing water, either medicated or not, at a moderate temperature, and this bends over, so that by suction from the mouth it may be made to discharge the contents of the vessel on the principle of the syphon. The lower portion of the tube ends in a perforated boxwood bulb, for introduction into the vagina. The female, by connecting the two portions of tube at their union-joint, thus applies a current of water, under columnar pressure, to the vaginal passage, which may be, in this way, effectually, and for any length of time, washed out. Dr. Jones relates various cases in which he has found this apparatus highly serviceable: for the details of these we must refer to the pamphlet.

If we mistake not, this principle of water-pressure, by the aid of caoutchouc tubes, has been applied by the French for a long period, as a substitute for the ordinary enema apparatus. The novelty, therefore, consists rather in its application to the treatment of vaginal disorders, and in the suggestion that it should be used for hygienic purposes in place of the inefficient method of external ablution. We think there would be some strong objections to its use in virgin females, at least in the mode suggested. With respect to the married, it would undoubtedly be a much more efficient method of applying lotions to the vagina and cervix uteri than the plan commonly pursued.

Proceedings of Societies.

PATHOLOGICAL SOCIETY OF LONDON.

February 5th, 1849.

C. Aston Key, Esq., in the Chair.

Mr. **Shaw** exhibited a cast taken from the head of a child eighteen months old, who had been run over in the beginning of June last, by a dust-cart. When picked up he was insensible, and remained so for ten minutes. The mother finding the left thigh-bone broken, and thinking that the sole injury, brought the child to the Middlesex Hospital, where he was seen, almost immediately after the accident, by Mr. Shaw. Besides the fracture of the femur, it was found that there was an extensive depression of the skull at the lower part of the left parietal bone. The depressed portion, consisting of three shelving fragments driven inwards without being completely fractured, was of an oval shape; the long diameter, which was from above downwards, was three inches in length, and the short diameter two inches, and the depth was about three-fifths of an inch. Owing to the shortness of the hair, and the absence of tumefaction in the scalp, the indentation was distinct to the eye, and produced a singular deformity in the side of the head. The child was free from any symptoms of injury of the brain; he took the breast, and spoke in a natural childish manner to his mother. No bad symptoms occurring, at the expiration of three weeks he was made an out-patient. From that time till the present, he has continued in good health.

The boy, who was a robust healthy child, was here brought into the Society's room, and examined by the members.

Mr. **Shaw** remarked, that seven months having elapsed since the accident, no perceptible change could be observed in the depression.

Cancerous ulceration extending from the skin of the forehead into the brain.

Mr. **Shaw** exhibited a specimen of cancerous ulceration, extending from the skin of the forehead into the left anterior lobe of the brain; together with a cast taken from the patient previous to commencing the dissection. The cast showed the skin ulcerated over nearly the whole extent of the forehead; but on the left side, immediately above the frontal sinus, a cavity was seen, the depth of which was an inch and three-quarters, and it was sufficiently wide to allow the points of three fingers to pass to its bottom. The patient was a female, admitted into the Middlesex Hospital early in June 1836, the complaint having commenced four months before. She had been long subject to epileptic fits, and at one time had been affected with insanity. When admitted, the ulceration, which was carcinomatous, had reached the bone, and by degrees a circular portion larger than a crown-piece was eaten away; two thirds of the opening being on the right side, the remainder on the left. The process of destruction went gradually deeper, until the ulcer had made its way about an inch into the left hemisphere of the brain, the cavity being bounded in the median line by the falx ceribri. The appearance of the ulcer continued unchanged, the surface of the cavity in the brain being like that of the more superficial part. She lived for two months after the ulceration had commenced in the brain, her death taking place in the end of September, from gangrene of the right lung. It was remarkable, that till the day before her death, except one or two epileptic attacks, similar to what she had been subject to before, she had no symptoms of cerebral affection. Dissection showed the brain to be sound in all its extent, except where the ulceration had taken place; there the part composing the walls of the cavity, or the base of the deep ulcer, was found to consist of a layer of firm structure not exceeding a sixth of an inch in thickness, covered externally with the usual soft lining of ulcer: immediately in contact with the dense layer, the medullary matter was rather soft, and was easily detached from it; but beyond that, the adjoining portions of brain were sound. Mr. Shaw remarked on the absence, in this case, of any tendency to the formation of hernia cerebri; which he thought might be owing to the firm base of the ulcer offering an elastic resistance to the pulsations within, and to the borders of the opening in the frontal bone being covered by the thickened textures of the ulcer, whereby the brain was protected from the effects of the continued impulses against the edges of the bone.

February 5th, 1849.

Mr. Birkett exhibited a specimen of

Ulcerated Sero-Cystic Sarcoma of the Female Breast.

The patient from whom this tumor was removed was under the care of Mr. Aston Key on the 24th ult, and was operated upon by that gentleman.

A lady, æt. 45, consulted Mr. Key about a large tumor in the region of the right mamma.

She was married, and had given birth to children. She had never been able to suckle with the affected breast. Milk was never secreted by it. With the left she had suckled. Her general health was tolerably good.

The disease commenced six years since. Its progress was slow until within the last six months, since which time it has increased rapidly.

The ulceration commenced about six months since.

To the touch, the mass felt soft, fluctuating, or rather pulpy. The surface was irregular; the skin of normal colour. A projecting mass was noticeable in the centre of the ulcer, and a portion of this was beginning to slough.

The axillary glands are unaffected.

The nipple is very distinct, but small.

The entire mass was removed by Mr. Key Jan. 24th, and upon the following day I commenced the examination of it.

Its weight was two pounds and a half.

It was found to consist of an oval piece of integument eight inches long, and about three wide. At one extremity of this was the nipple; at the other an ulcer. Beneath the integuments was a considerable mass of the mammary gland, through which was interspersed some cysts and new growths, and beneath this again were large cysts, filled with solid growths, and some with fluid only.

The *ulcer* was very nearly circular, about one inch and three-quarters in diameter. The larger portion of the border of the ulcer formed by the skin was inverted. At one point, for about one inch and a half, the edge was thickened and everted, of a bluish tint, and very hard. The mass projecting in the centre of this ulcer was unattached to its edges, and was divisible into small lobules connected by peduncles to the tissues behind. Small islets of skin crossed the ulcer, as if the skin had given way in more points than one. One mass of these sprouting intra-cystic growths had begun to assume a sloughing aspect upon its exposed surface, but its extent was quite superficial.

From the *nipple* the lactiferous ducts were traced into the remains of the mammary gland, and they were more or less distended with white milky fluid.

A vast number of cysts composed the mass, together with remains of gland tissue, particularly its fibrous envelope:—

1. Small cysts containing fluid only.
2. Small cysts containing cholesterine.
3. Large cysts with fluid and intra-cystic growths.
4. Small and hard new growths in fibrous capsules.

The *intra-cystic growths* were so plentiful and various in character, that it is almost impossible to describe them:—

1. There were some of a yellow amber colour, brilliant and transparent.
2. Those of a brilliant red, the blood becoming extravasated in their tissue.
3. Others very pale.

4. Some opake and yellowish white.

5. Some very large bodies, generally of a pyriform shape, perhaps half an inch long, a few one inch. Some very minute bodies, but all firmly attached by peduncles.

5. Some very soft, almost like jelly.

The minute anatomy of the solid growths plainly and incontestibly demonstrates their histological relationship. The most attentive examination failed in detecting any tissue like carcinoma, but clearly proved that the mass was composed of certain portions of mammary gland tissue in various stages of development; in other words, that the disease under consideration is a peculiar form of imperfect hypertrophy. 1. Hypertrophy (excess) of blastema; 2. Hypertrophy of terminal lobules; 3. Hypertrophy of terminal vesicles, or the cæcal terminating of the ducts.

The above description was illustrated by a drawing of the amputated mass, by Mr. Tupper, and by several drawings of the minute anatomy of the fluid and tissues of which it was composed.

Mr. Nathaniel Ward exhibited three specimens—

Acute Periostitis, terminating rapidly in destruction of the articulation between the first and second phalanx of the index finger, and extensive necrosis of the latter.

A woman, æt. 27, married nine years ago, was infected with syphilis, by her husband, three years afterwards. The ulcers were cured by local applications, and the exhibition of mercury. Some time after, periostitis, with subsequent exfoliation of several pieces of bone, affected the fourth and fifth left metacarpal bones. A second attack, without exfoliation, came on three years ago, and was treated by incision. On the second of November, 1848, she came under the care of Dr. Tripe, suffering from very great pain from an ulcer on the dorsum of the left ring finger. The centre was covered with an ash-coloured slough; the edges red and excavated; the parts around much swollen, and reddened, with a brawny feel, so that it had the appearance of a sloughing chancre. The formation of the ulcer had been preceded six days by great pain, aggravated at night; hardness and swelling of the finger at the seat of the ulcer. The pain and swelling augmented rapidly, and in three days a pimple formed at the top of the swelling, and rapidly ulcerated to the size of a shilling. Two days after Dr. Tripe saw her, the slough had much increased, being of an oblong form, and having extended downwards chiefly over the joint; the edges of the ulcer were bright red, and hard, and the pain most excruciating. The slough still continued spreading, but upwards only, and on the fourth day came away at the lower part, so as to expose the joint, and the removed end of the second phalanx: the extensor tendon came away with the slough. The patient suffered all along from great constitutional irritation, and this circumstance, connected with the destruction of the joint, necrosis of nearly the whole of the second phalanx, and the sloughing away of the extensor tendon, appearing to indicate the necessity of amputation, the finger was removed without taking away the head of the metacarpal bone. During the progress of the patient towards recovery, periostitis came on in the middle finger, but was soon checked.

The interest of the case rested particularly on the very rapid course of the affection, which from commencement to termination included a period of only 10 or 12 days.

Tumor the size of a French walnut, occupying the site of the Infundibulum.

A lady, between 21 and 22, apparently in the enjoyment of perfect health, robust, well made, and of a peculiarly active mind, gradually became affected with dimness of vision, so that whilst reading the letters by degrees became obscured, and she could see nothing. She had no headache or any other symptoms which gave her or her family apprehension. Having been subject to hysterical fits, the difficulty of vision was also set down to that affection. The dimness, however, gradually increased, and three or four months after it had been particularly noticed, the patient was again seized with symptoms resembling an hysterical fit. She expired in 24 hours. In the post-mortem examination, the convolutions of the anterior part of the brain were much flatter than natural. The anterior half of the fornix on the left side was soft and pulpy. The pituitary gland was thrice its ordinary size, and had caused from pressure considerable attenuation of the posterior clinoid process, which had become as thin as parchment. Immediately above this, and occupying the situation of the infundibulum (no trace of which could be seen), was a tumor equal in size to a French walnut, and which had extended backwards so far between the crura cerebri, that an angle of 105° represented their point of divergence forwards, so as to stretch to the extent of ¼ inch the commissure of the optic nerves. The anterior half of the tumor appeared embraced by the distended commissure, and the continuation of the nerves in the tractus opticus before passing over the crura cerebri. It projected upwards into the third ventricle, coming almost on a level with the corpora striata. On the left side it had impinged on part of the fornix, and caused its disintegration.

A Large Tumor connected with the Dura Mater.

The particulars of the case and specimen had been forwarded to him by Dr. Parker.

A clergyman, 34 years of age, whose general health had been hitherto good, was suddenly seized with an epileptic fit about the middle of June 1848. He had performed his usual service at Church, and had retired to rest in perfect health, after eating heartily of cold veal. About 2 A.M. he awoke with a loud shriek, fell out of bed, became convulsed and unconscious. He remained in this state for two hours. His memory was somewhat impaired for a day or two, and he then recovered his usual good health. Towards the middle of August he had a second attack, but again recovered speedily. He had similar seizures in September and November. In the intervals he enjoyed perfect health, his mind was unaffected, and he was free from headache. On Sunday, the 31st of December, he preached as usual, and on the Monday and Tuesday performed his ordinary avocations. On Wednesday morning (Jan. 3) he was found dead in his bed, with his hands clenched, and the face buried in the pillow. The bed-clothes were undisturbed. On the inspection, thirty hours P.M. the body was found robust and well formed; much discoloured. Dura mater very vascular, with a large firm tumor attached to its inner surface. The mass presented an irregularly-nodulated surface, and was made up of three rounded portions, the largest being about the size of an egg, the others somewhat smaller. At its centre the tumor was attached to the dura mater by a broad fibrinous base. The anterior lobes of the brain were compressed, and the mass extended along the longitudinal fissure occupying its anterior third. The cerebral matter beneath the tumor was healthy, but much flattended, more particularly on the left side, where it was reduced to a layer barely half an inch in thickness, and on the right side its thickness was about an inch and a half. The tumor was hard, and on section exhibited a fibrous appearance. Examined by the microscope it was found chiefly composed of broad bands irregularly interwoven, and a substance finely granular. A portion of soft matter found in the centre of one of the small masses exhibited numerous large cells, containing from two to five large nuclei. The lungs were much congested; the heart large and flabby.

Dr. PEACOCK exhibited a specimen of

Malformation of the Heart: contraction of the orifice of the pulmonary artery and partial origin of the aorta from the right ventricle.

This specimen was removed, by Dr. Oldham, from the body of a child 17 months old, which died of effusion in the brain, preceded by icterus, and which had presented the usual aspect of morbus cæruleus. The heart was very large for the age of the child. The pulmonary orifice is of small capacity, and is provided with only two semi-lunar valves; and there is an aperture at the base of the septum ventriculorum sufficiently large to allow of the passage of the little finger. The aorta arises above the aperture in the septum, so as to communicate with both ventricles.

The right cavities, and especially the right auricle, are very large, and the walls of the right ventricle are unusually strong and thick. The left cavities are, on the contrary, relatively small, and the walls of the left ventricle are thinner and more flaccid than those of the right. The foramen ovale is closed, except at its anterior and upper extremity, where there exists a valvular opening, which, when the auricle was distended, would have allowed of the passage of the blood from the right into the left auricle. The ductus arteriosus is pervious, but will only admit of the passage of a very fine probe. The left coronary artery arises at a point above its ordinary origin.

This form of malformation of the heart is one of the most frequent which occurs. This case resembles those related by Hunter and Sandifort, though the degree of the contraction of the pulmonary artery is less. Two similar examples of malformation have previously been exhibited to the Society, and are described in the first volume of the Transactions.

Dr. JEAFFRESON exhibited a specimen of

Malignant Ulceration of the Pharynx and Trachea.

Jan. 1849.—Mrs. M., æt. 36, was in good health until fifteen months ago, when she began to complain of pain and difficulty in deglutition. Her symptoms gradually increased during nine months: her voice then became rather hoarse, and she suffered from a frequent irritating cough, without expectoration (the cough was always produced by any attempt at deglutition). At that time there was pain on the right side of the thyroid cartilage, increased by pressure, and some fulness around the cartilage. In a few weeks she was seized with hæmoptysis to a considerable extent, which recurred almost daily, and always followed any examination of the throat when pressure was made on the thyroid cartilage. The difficulty of swallowing, and the cough produced by it, were so distressing, that for a fortnight previous to death she was supported by injections of beef-tea, &c.

Post-mortem. — The lungs and other organs were perfectly healthy; the only morbid appearances were in the pharynx and trachea. The upper part of the pharynx is occupied by a large and irregular cancerous ulcer, which has laid open the trachea immediately below the cricoid cartilage. The ulceration is deepest upon the right side, where the crico-aretænoideus posticus muscle has been eaten away, and the rough and superficially ulcerated cricoid cartilage is denuded. The posterior part of the right ala of the thyroid cartilage is likewise denuded, and a portion of its inferior cornu is very nearly detached. The ulceration has extended forwards on the right side, between the pharynx and the side of the larynx, towards the attachment of the inferior constrictor, and has involved, though slightly, the insertion of the sterno-thyroid muscle, and the upper part of the right lobe of the thyroid body. Upon the left side the ulceration has attacked the corresponding parts, but it has not advanced so far. The cricoid cartilage is separated from the upper ring of the trachea for about two-thirds of its attachment. The surface of the mucous membrane around the ulcer is thickened. and covered with soft, friable, and warty growths, which, upon microscopical examination, proved to be composed of epithelium; the cells were large, and of irregular form; several contained two or more smaller cells. The surface of the ulcer was in some situations covered with a soft creamy matter, which consisted of epithelium, granular matter, and fragments of torn blood-vessels.

Mr. **Partridge** exhibited a specimen of

Disease of both Hip-joints,

removed from a man who had recently died in King's College Hospital.

On one side, the head of the bone was anchylosed, and the shaft with the trochanter was separated, apparently by fracture, the parts being attached by some ligamentous bands. On the other side there was ulceration of the acetabulum, and of the head of the femur. The history shewed the case to have been of very long standing.

Mr. **Critchett** exhibited a case of

Close Union of a Fractured Patella.

Henry Merritt, aged 67, was admitted into the London Hospital, having fractured the patella of the right leg by falling with the leg bent under him; there was very little separation at the time of the accident. The limb was placed on an inclined plane, in such a way as to relax the extensor muscles. Bandages were also applied in such a way as to prevent separation of the broken portions. He remained in the hospital nine weeks and three days, and was then discharged cured. Four months after this he died of pulmonary disease. A section of the patella shewed the union to be quite close, but it was doubtful whether it was ossific.

Mr. **Critchett** also exhibited a

Calcareous Tumor,

removed from the liver of the same patient. It was thought by some of the members present to have been originally an hydatid. The interior was examined by Dr. Letheby, and found to consist chiefly of phosphate of lime, also some animal matter, with a portion of carbonate of lime, triple phosphate, and cholesterine.

MEDICAL SOCIETY OF LONDON.

Monday, January 29, 1849.

Mr. Hancock, President.

Mr. **Harvey** related the following

Case of Diseased Liver simulating Ovarian Dropsy.

Miss B——, aged twenty-nine, had been attended by two medical practitioners, one a physician of eminence, for supposed ovarian dropsy. She had suffered from retention of urine, and was obliged, from time to time, to be relieved by the catheter. Her menstrual periods were never regular: this circumstance, combined with the fulness in the hypogastric region, gave the physician-accoucheur who was consulted the conviction that it was an ovarian enlargement on the right side. When Mr. Harvey was consulted upon her case, he found her suffering from great distension of the parietes of the abdomen, and occasional retention of urine, requiring the use of the catheter. Her size at this period was equal to that of a woman about five months advanced in pregnancy. She complained of no constitutional symptoms, her only complaint being the gradual increase in bulk. At this time he felt that something might be done of an operative kind; and as several cases of extirpation of the ovary had been reported as cured, particularly in young women, he requested a further consultation with another physician of eminence, whose diagnosis and critical accuracy he could rely upon. This gentleman, as well as the one before named, considered it an undoubted case of ovarian dropsy. The tumor always filled the right iliac fossa. As there was a case that had been just operated upon, and which it was thought desirable should be their guide as to which mode of proceeding should be adopted, the practitioners thought it desirable to postpone anything further than palliative treatment. The abdomen, however, gradually enlarged and gave her considerable uneasiness, and it was thought desirable that another consultation should be held, in order to decide upon the chance of relief that might be afforded her by emptying the cyst. At this consultation it was deemed expedient to postpone tapping, and a further application of leeches and purgatives was adopted.

This treatment, although followed with regularity, gave no relief, and she continued to increase in size. She determined now, at the end of four months, on being relieved by tapping, which he (Mr. Harvey) performed. The quantity of fluid drawn off amounted to little short of sixteen quarts, of a pale, transparent, amber colour, resembling water very slightly tinged with bile. Mr. Harvey remarked to a medical friend in attendance, that he had never witnessed such kind of fluid from an ovarian cyst. The operation produced a considerable prostration of the powers for some time, but gave great relief: a stay bandage was applied. The patient continued to improve for a fortnight. The functions of the kidneys and bowels were performed regularly. She was placed under the influence of small doses of mercury and tonics, and the pressure on the abdomen was gradually increased. A sudden alarm in the family produced great disturbance in her mind, and the cyst was observed to refill. Considerable constitutional symptoms set in, attended with rigors, two or three times in the twenty-four hours, which led to the belief that the cyst was suppurating; but such was the suddenness of the attack, and consequent depressions of the powers of life, that neither his friends nor himself dare venture farther than merely allay symptoms as they arose. She sank forty hours after the first alarm in her family. As it was a case of great interest, he was desirous of inspecting the body, the size of which resembled a woman in the last period of pregnancy. An incision was made through the abdominal parietes, which exposed a cyst containing as much purulent fluid as was before named; tracing up the cyst, it was found to be connected with the left lobe of the liver, which was broken down, with scarcely a portion remaining. The kidneys were slightly advanced in Bright's disease. The uterus and ovaries were found to be healthy. This case appeared to be interesting, particularly with regard to the absence of one very important symptom—namely, jaundice, which, in hydatid disease of the liver terminating in suppuration, he believed was never absent. The early history of the case entirely impressed himself and others with the conviction that it was an ovarian enlargement.

Mr. I. B. Brown made some general remarks on the difficulty of diagnosis in cases of ovarian dropsy, and related a case of disease of the liver attended by ascites, which was mistaken by several medical men for ovarian dropsy. The operation of extirpation was proposed, but not carried out. The patient came under his care, and recovered under the employment of tapping and mild doses of mercury.

Dr. Waller recalled attention to two cases, erroneously supposed to be ovarian dropsy.

Mr. Shearley related a case in which a person afflicted with hydatids of the liver was supposed to be labouring under ovarian disease. In the case of a near relative of his own, an extirpator of ovarian tumors had placed a plug in the wound made in the operation of tapping; the plug could not be removed, and the patient died.

Mr. Hancock inquired of Mr. Harvey whether he did not think the depression in the last stage of his case did not depend upon the presence of the pus in the cyst, and whether that depression might not have been relieved by letting out that fluid?

Mr. Harvey had been fully alive to the condition of his patient, and had it not been from his conviction that irremediable disease existed, he should have hazarded a free opening into the tumor.

Chloroform in Strangulated Hernia.

The President stated that he had lately found chloroform of great service in a case of strangulated inguinal hernia. He was called lately to operate on a man suffering from a large inguinal hernia; all the usual means with the taxis had been employed without any good result. He found, on handling the tumor even in a gentle manner, that the man was put into the greatest pain. He suggested the use of chloroform. It was employed, and in less than five minutes the hernia was completely returned. He had found, however, that this agent did not succeed in a case of femoral hernia, to which he had been called, in a lady. The gut had been down for twenty-four hours, and signs of peritonitis were present. Chloroform was administered, but it took no effect. The operation was performed; the patient recovered.

Mr. Pilcher had had no personal experience in the matter, but he had heard of the successful use of chloroform in several cases of hernia which had been brought to St. George's Hospital to be operated upon.

ROYAL COLLEGE OF SURGEONS.

THE HUNTERIAN ORATION.

The Hunterian Oration, annually delivered in the Theatre of the College, in memory of John Hunter, the founder of the museum bearing his name, was yesterday read by Mr. Cæsar Hawkins, a member of the Council, before the President and Council of the College, and a large auditory, including H.R.H. Prince Albert, the Bishop of Oxford, the Earl of Waldegrave, Sir R. Peel, Sir R. H. Inglis, and other distinguished men.

The learned orator, after alluding to the period of birth of the illustrious founder of the magnificent museum of the College, proceeded to comment on the labours and exertions which had been made by him to advance the science of anatomy. No individual could justly appreciate the vast extent of John Hunter's labours during the short period of thirty-five years, who had not studied his numerous works, and who was not aware of the fact that the whole of his collection was formed within that period; yet the revolution which his researches have brought about in the scientific position and practical value of his favourite objects of pursuit, are sufficient evidence on this point. He it was who first pointed out the path by which practical knowledge could be obtained through the study of the lower animals, and who showed how phenomena, previously inexplicable, could be unravelled by extended observation of healthy and morbid structure. It was, of course, not to be understood that anatomy and physiology had not been advanced since Hunter's time; but it was a fact, that it was Hunter who had given the first impulse to a scientific pursuit of the sciences on which the practice of the healing art more immediately depends, and which, within the last few years, has received an additional impulse from the new fields of research which had been opened up by increased facilities for observation. The mere inspection of the museum would not lead one to suspect that the labours of one individual could have effected so much, nor would he be prepared to believe that Hunter's knowledge of healthy and diseased structure, and of disease, was so great as it really was, unless conversant with the great physiological catalogue which had been drawn up with great care, and with every desire that it should be worthy of the Museum and of the College. The same fact is shown by his collected works, which were published some years since with the comments of the most distinguished men in each department of the science on which he wrote. It would never have been suspected that Hunter was so far beyond his age, had not his pupils' labours, and the zeal of the College, tended to rescue much interesting and valuable information from destruction. By the joint labours of the President and the junior Professor, the members will shortly be presented with a catalogue of the pathological collection which had been commenced by John Hunter, with a series of preparations intended for the illustration of his more peculiar theories on diseased structure, and on the proper mode of treating diseases. The Council of the College, desirous of making the collection of morbid preparations worthy of the institution, have expended £4000 in the purchase of a number of valuable specimens; and this, with donations from members, though not so numerous as they will hereafter be, from the stimulus of the forthcoming catalogue, will no doubt render it all that can be desired. This part of the museum has been already more than doubled since the year 1830; and it, as well as the physiological part, may not only claim comparison with any similar collection in this or other countries, but is worthy of that superiority which has always been assigned to the latter. The study of diseased structures was carried out to a great extent by Hunter; but, in connection with this, a question arises, how far he is entitled to the praise lavishly bestowed on him for the advances he made in the study and practice of the art of surgery? Such admiration and praise were deserved.

All the most distinguished surgeons of the day are conversant with Hunter's works; and there is not one who, if asked for his candid opinion of his contributions to surgery, would not state that what has been advanced of late years as original, was brought forward by and acted upon by him, who has left behind him that magnificent monument of his zeal, talent, and labour, which adorns the institution. The practice of pirating from others who have stolen the information themselves has become so common that it may be considered a matter of no slight difficulty to discover the rightful owner, and to apportion to each his just meed of praise. No one has ever been more subject to peculations than John Hunter. Even at the present day, facts are paraded in the works of authors as original, which, on further inquiry, will be found to have belonged to him whose memory the members were assembled to honour.

If a fair inference be drawn from Hunter's works,—that is, from a deep and earnest study of his observations—a task requiring much acumen and great attention on the part of the reader,—it will be found that his reputation as a surgeon is nearly as great as that derived from his anatomical and physiological researches. On every subject connected with surgery he was a master, and all who follow after him must be content to find themselves his pupils.

Perhaps it was worthy of remark, that throughout the whole of Hunter's works there is a tendency—indeed more than a tendency—to explain everything according to what is termed the vital principle, in opposition to the idea that animal and vegetable organisms are governed by physical laws,—an idea which he had to combat with more than ordinary vigour. Hunter invariably searched after general laws or broad principles regulating the structure and functions of the organic world, and his efforts were, by his unwearied industry, fortunately crowned with success, at least in the more important points of anatomy and physiology. It was by enforcing these principles on the attention of his pupils, especially those who had the advantage of assisting him in his dissections, that the great revolution he brought about in all the branches of surgical science, and which is still felt at this day of rapid advance, is to be attributed. The profession at the present day is greatly indebted to the labours of the pupils of Hunter, who, in carrying out his precepts, have not only heaped honours on themselves, but have also contributed to support the reputation of their illustrious preceptor.

The Orator then said, it was his painful duty to allude to the deceased members of the Council, in which body there had been three vacancies during the past year, by the demise of Messrs. Briggs, Callaway, and Samuel Cooper. Mr. Callaway was a man who had great practical knowledge, and was enabled to apply it to the relief of those patients who were entrusted to his care, in such an able manner as to call forth the admiration of all those who were able to appreciate talent. Mr. Briggs was a most unassuming, studious, and literary surgeon, and was the translator of Scarpa's celebrated work on Aneurism: he was also a liberal contributor to the Library of the College, now containing 23,000 volumes, the most complete library on subjects connected with medicine and surgery in the three kingdoms; and as a proof of the value attached to it by the members, it may be mentioned that no less than 5508 visitors had made use of it during the past year. Mr. Hawkins then passed a high eulogium on the memory of Mr. Samuel Cooper, who for fifteen years was Professor of Surgery to the University College, and an Examiner of this College. In mentioning the numerous contributions of Mr. Cooper to the advancement of science, it was stated that editions of the Surgical Dictionary had been brought out in France, Germany, and America, and had passed through seven editions.

The learned Orator then alluded to the increased zeal of comparative anatomists and physiologists, who, while pursuing a path apparently opposed to the elucidation of diseased structures, had shed much light on subjects before involved in mystery, and had done more to rescue practice from empiricism than might be imagined.

Mr. Hawkins then inquired why there should not be full co-operation amongst medical men for the advance of science: this was a question fully commented on by him, and by illustrating his point with the advantages derived from the cooperation of astronomers and others over every part of the habitable globe, he showed how desirable it was that observations, should be made by medical officers to our public establishments, so as to correct errors, and give to surgery its proper position as a science. This was now likely to follow from the feeling which existed amongst scientific men at home and abroad. The Royal Society of this kingdom has often conferred its medals on illustrious foreigners—men distinguished for their scientific attainments; and it is pleasing to notice that the French Academy have elected Sir David Brewster as one of its associates, in room of the distinguished Swedish chemist, Berzelius.

The increasing sense of the necessity of a truly scientific education amongst all classes and every rank of life was a guarantee that science could not be neglected; on the contrary, it proved that it would advance with rapid strides. Nothing, indeed, could be more certain than this, when the illustrious visitor, whom he had the honour of addressing, stood foremost in the ranks of the well-wishers to the progress of science. This had been the means of increasing the loyalty of the inhabitants of this realm, who looked forward to the increased happiness and prosperity of the nation, from the happy rule of the present Sovereign, and in the rising generation of princes saw the means by which revolutionary commotions could be prevented, as they had been already, at a time when they were rife in other countries. They called forth our sympathies, while there was cause of congratulation for being spared from their ravages.

The dinner in commemoration of the 56th anniversary of Hunter's death took place at seven o'clock, in the magnificent Library of the College. About seventy gentlemen were present, and Mr. Stanley, the President, took the chair. Among the guests we noticed the Bishop of Oxford, Chief Baron Pollock, Sir Robert Peel, Sir James Graham, the Dean of Westminster, Mr. Hallam, and other well-known professional and scientific men.

ROYAL INSTITUTION.

Friday, Feb. 9.

Professor Owen on the Nature of Limbs.

This lecture was a development, in relation to the limbs, of that great subject, the homologies of the vertebrata, with which Professor Owen has, of recent years, occupied himself so profoundly and so successfully. A large portion of those researches are detailed in Professor Owen's Lectures on the Vertebrate Animals, and in his elaborate report on the Archetype and Homologies of the Vertebrate Skeleton, published in the Report for 1848, of the British Association for the Advancement of Science.

The term "homologue," Professor Owen defines as "the same organ in different animals under every variety of form and function." For a complete illustration of the meaning of the term, we refer to the report just alluded to, p. 175.

The lecture was illustrated by an extensive series of drawings, without the aid of which it would be difficult to give any correct idea of the subjects brought before the meeting. The resemblance of the anterior and posterior limbs in the cetacea, the mole, the bat, the horse, and the monkey, was successively pointed out, and ultimately compared with those of the human subject. It was shown that the corresponding bones of the arm and hand were long and slender, or short and thick, according to the purposes required in each animal. The five digits of the hand were traced throughout the different mammalia, and it was shown that the great character of the human hand was in the thumb. This becomes smaller, less free in its motions, and much more limited in its use, in proportion as we descend in the scale.

Professor Owen's lecture considerably exceeded the usual period; but it was listened to with great attention throughout.

Correspondence.

POISONED CONFECTIONARY.

Sir,—I think the following case is of sufficient importance, in more than one respect, to justify your laying it before your readers, as it shows how dangerous it is for the public safety that we possess no means of regulating the use of ingredients which are noxious, in the preparation of many of our most tempting articles of luxury. There are also one or two points in the treatment of the sufferers which are worthy of attention; for I have but small doubt that had a chemical antidote not been at hand a fatal result might have ensued in the case of at least one of them. The case is shortly as follows:—About 1 o'clock on the 31st of January last, a child, 5 years old, the son of a gentleman here, was taken violently sick, and vomited several times: he was also purged, having two stools in about half an hour; I saw him about that space of time after he had been seized. He was pale and anxious, his extremities very cold, his lips of a bluish tinge, and his pulse extremely feeble and rapid. His mother thought the attack so much resembled cholera that she had mixed some weak brandy and water, of which he took a little: I recommended the application of warmth to the body, and left him for a short while, hoping that it would prove nothing serious, intending to see him again, to observe whether the brandy and water and warmth would restore him. I descended to the dining room, where were his sister and a younger brother, both at dinner; it was remarked that they did not eat with their usual appetite, when shortly, first the younger boy and then the eldest child, a girl about 7 years old, were attacked with vomiting. I suspected that something poisonous had been taken, and directed warm water to be given so as to encourage and keep up the vomiting. In the meantime, inquiries were instituted as to what could be the cause of the attacks: it was soon discovered that they had all been eating a green-coloured ornament, made of sugar, to resemble a fuchsia, which had adorned a splendid cake at a party where they had been a few nights previously. I at once concluded that *arsenite of copper* must be the colouring matter present, and that the children were therefore suffering from the effects of that poison. I immediately prepared some hydrated peroxide of iron, of which I administered in considerable doses to each of my patients; the vomiting continued in the two elder children, and the prostration of the boy was extreme; he remained cold and drowsy till 9 o'clock in the evening, vomiting at intervals, and he was at that time put into a warm bath, which restored warmth to a considerable extent, after which he went to sleep for a short time, and awoke considerably better. Thirst was an urgent and distressing symptom in all of the children. In the morning they were very much better, and had a mild purgative administered, after which they improved rapidly. The only treatment which I thought it necessary to adopt in addition to giving the oxide of iron, was to apply sinapisms to the abdomen, and to give a teaspoonful of a cordial mixture occasionally.

I obtained the remainder of the flower, and on submitting it to the reduction test in one of Christison's tubes, a copious ring of metallic arsenic speedily appeared on the tube.

The person who supplied the cake stated that he procured all his ornaments from London, and that he was of course ignorant of their deleterious nature. He informed me that he believed such ornaments as he used, to be universally had in requisition for the purpose of adorning cakes: he added, that they were never *meant* to be eaten. But I find them extremely good and palatable at the first taste; and, therefore, it must be expected that children should eat them. I have thought it well to make this occurrence as public as possible; for, more especially at a time like this, when we are every day meeting with cases of sudden illness, it is right that every fact such as I have narrated should be conspicuously set forth. Besides which, the public ought to be put on their guard, and, if possible, induced to avoid the risk, by totally discouraging the use of these (leaving arsenic out of the question) most unwholesome baubles, which annually, about this season, are productive of so much illness.—I am, sir,

Yours, &c.

Walter Fergus, M.D.

Resident Medical Officer at Marlborough College.

*** The recovery cannot be assigned to the effect of hydrated oxide of iron, for this has no chemical action whatever on arsenite of copper.

Medical Intelligence.

COPY OF THE WILL OF THE LATE DR. GEORGE SWINEY, CONTAINING BEQUESTS FOR A PRIZE OF THE VALUE OF £200, TO BE AWARDED EVERY FIVE YEARS, AND FOR THE FOUNDATION OF A LECTURESHIP IN GEOLOGY, TO BE HELD BY GRADUATES OF EDINBURGH.

[Extracted from the Registry of the Prerogative Court of Canterbury.]

This is the last will and testament of me, George Swiney, Doctor of Physic of the University of Edinburgh, now residing in Sidmouth Street, in the county of Middlesex. 1. I desire that my debts and funeral expenses be paid; 2, I give a miniature picture of my father to his nearest of kin surviving me; 3, I give a miniature picture of my mother to her nearest of kin surviving me; 4, I give my gold ring to the clergyman who shall perform my funeral services; 5, I desire that a bond, granted by the late Agnes Goodhall, to my late father William Swiney, and my late uncle John Swiney, be so far as one moiety thereof is concerned, cancelled; 6, I leave the sum of fifty pounds, for the purpose of publishing one edition of such manuscripts as I may leave, with directions to that effect; and I leave the profits arising therefrom, together with the manuscript and copyright thereof, and also my books and other manuscripts, of which I may die possessed, to the London University; 7, I leave five thousand pounds stock, in the three per cent. Consolidated Annuities, to the Trustees of the British Museum, and their successors duly elected and appointed for ever in trust for the purpose of establishing a Lectureship on Natural History. Should this plan not meet with the approbation of His Majesty's Ministers, then I direct my Executors to sell the same, and divide the proceeds amongst the following institutions:—I. "The Literary Fund in Lincolns' Inn Fields. II. "The Artists' Benevolent Fund," established in the year 1810. III. "The Artists' General Benevolent Institution. IV. "The Marine Society," instituted in the year 1756. V. "The General Philanthropic Society," instituted in Clerkenwell in the year 1813-8. I leave five thousand pounds stock, in the same three per cent. Consolidated Fund, to the Society for the Encouragement of Arts, Manufactures, and Commerce, instituted in the year 1753, in trust to apply the dividends therefrom arising to the following purposes, viz:—That they do on the fifth anniversary of my decease, and on every fifth anniversary of the same afterwards, for ever, present to that agriculturist, being a leaseholder in England, Wales, or Scotland, who shall during the five years preceding the day of presentation have brought into arable cultivation the greatest quantity of waste land, a silver goblet of the value of one hundred pounds, containing gold coin to the same amount, and that they do apply the remainder of the dividends therefrom arising to the general purposes of that Institution. 9. I leave the sum of one hundred pounds to each of my executors. 10. And with regard to the residue and remainder of my estate of what nature soever I may die possessed of, I desire that it may be sold and the proceeds thereof paid into the treasury of Middlesex Hospital: And I appoint Hutchinson Bell, Esquire, Merchant, of the City of London; the Reverend Josiah Forshall, Secretary to the British Museum; the Reverend John Peers, of Lambeth in the county of Surrey; the Rev. Dr. F. A. Cox, Librarian to the London University; and Arthur Aikin, Esquire, Secretary of the Society of Arts, &c., executors of this my will, to which I put my hand and seal this 27th day of May in the year 1831, at my apartments at Sidmouth Street in the County of Middlesex.

George Swiney, (L.S.)

Signed, sealed, and delivered in the presence of us

Mary Ann Burrows, Widow,
Ann Avery, Spinster.

A.

I, George Swiney, Doctor of Physic of the University of Edinburgh, having made my will as will be found in three several copies, viz. one in my own possession, a second in the British Museum, and a third with the Society of Arts, all of date the 27th of May in the year 1831, do make this codicil additional thereto, desiring that it may be taken as part and parcel thereof. 1. I desire that my executors will publish in manner as directed in my will one edition of the following manuscripts, viz.: 1. a romance entitled Agmodil: 2. a volume of fables: 3. a treatise on jurisprudence, and for any expenses necessary thereto further than ordered in my said will I leave the further sum of fifty pounds. 2. I desire that my funeral expenses may not exceed the sum of twenty pounds over and above the expense of my coffin and pall, the covering of which former and the latter, I desire may be not of black cloth but of yellow, for which I leave the sum of twenty pounds; Also I desire that three little girls dressed in white, for which dresses I leave the sum of twenty pounds, also a legacy of twenty pounds each to the little girls, may precede my coffin in procession, which procession is to be on foot; and I desire that a slab of white marble, polished and edged with black, be placed at the head of my grave, for which I appropriate the sum of fifty pounds. 3. I desire that a mourning ring be sent to each of a number of friends, of whom I leave a list in my handwriting. 4. And whereas there is in my said will a trust to the Society of Arts for a prize to be given to the cultivator of the largest extent of waste ground, I do now revoke that bequest, and I leave the sum of five thousand pounds stock, in the Three per Cent. Consolidated Fund, to the same Society of Arts in trust for the purpose of presenting at similar periods a similar prize to the author of the best published work on jurisprudence, to be adjudged by the members themselves, and the Fellows of the College of Physicians, with the wives of such of both as may be married, for ever, the surplus to be applied as directed—viz. to the general purposes of the Society. 5. And whereas there is also a trust to the Trustees of the British Museum for a Lectureship on Natural History, I do also revoke that bequest, and I leave five thousand stock, in the Three per Cent. Consolidated Fund, in trust to the Trustees of the British Museum, for establishing a Lectureship on Geology, the Lecturer to be an M.D. of Edinburgh.* 6. I leave one hundred pounds to the poor of the parish in which I may die, to be distributed by the rector or vicar thereof. 7. I leave to George Swiney, eldest son of my cousin George Swiney, Lieutenant-Colonel in the service of India, late the E. I. Company's, my writing-desk, dressing-box, and all apparatus; my watch, chain, and seals, together with a third seal having engraved thereon the family arms; my pistols, and sword cane with octagon silver top. 8. I leave to Maria Swiney, eldest daughter of the said Lieut.-Col. George Swiney, my tea-caddy of rosewood, my medicine chest, and my silver pencil case. And I place my hand and seal to this codicil, at my rooms in Molesworth Place, Kentish Town, in the County of Middlesex, this fourteenth day of November, in the year one thousand eight hundred and thirty-five.

George Swiney (L.S.)

B

List of friends to whom I have left in my will mourning rings:—

—— Cathcart, Esq., merchant, of Leith, (brother to Lord Cathcart); —— White, Esq., Armiston, near Edinburgh; —— Taylor, Esq., Advocate of Edinburgh; Archibald Haig, Esq., of Tranent, near Edinburgh; George Swiney, Esq., of the East India Artillery; John Swiney, M.D., of the India Medical Service; Charles Anthony Fisher, Esq., of Walton, near Wetherby, in the county of York; the Rev. William Atkinson, of Boston, near Wetherby, in the county of York, and of Cromer in Norfolk; the Rev. George Swiney, of Dublin, and late of Bridgenorth; John Kenset, M.D., of Edinburgh, and of Kiels, in the Highlands of Scotland. Also one to each of my executors, viz. the Rev. Josiah Forshall, Secretary of the British Museum; Mr. Hutchinson Bell, merchant, of Crown Court, Threadneedle Street; Arthur Aikin, Esq., Secretary to the Society of Arts; the Rev. Dr. Cox, Librarian to the London University; the Rev. John Peers, of Lambeth, and of Boston, near Wetherby, in the county of York.

I, George Swiney, M.D., do make this Codicil further in addition to my Will. I bequeath to Ann Hirst Haig, eldest daughter of the late James Haig, Esq., of Bedford, and of the India service, a certain black portfolio, containing sundry loose manuscripts for her use, and that of her particular friends, and also the sum of one hundred pounds, putting my hand and seal to the same, the 4th day of September, in the year 1836, at my rooms in Kentish Town.

George Swiney.

Proved at London, with two codicils, the first codicil being contained in paper writings marked A and B, the 17th Feb. 1844, before the worshipful Frederic Thomas Pratt, Dr. of Laws and Surrogate, by the oaths of the Rev. Josiah Forshall, clerk; the Rev. John Peers, clerk; the Rev. Francis Augustus Cox, clerk, Doctor in Divinity; and Arthur Aikin, Esq., four of the executors to whom administration was granted, having been first sworn duly to administer, power reserved of making the like grant to Hutchinson Bell, Esq., the other executor, when he shall apply for the same.

Chas. Dyneley, }
John Iggulden, } Deputy Registrars.
W. T. Gostling, }

REFUSAL OF FEES TO MEDICAL WITNESSES ATTENDING BEFORE MAGISTRATES.

At a meeting of the Medical Society of Bury, Lancashire, on the 11th day of December, 1848, a discussion arose respecting the annoyance and injustice to which the medical gentlemen were subjected, in consequence of their attendance being so frequently required at the Police Courts, &c., to give evidence in criminal cases (not as common witnesses to a fact), but to give a professional opinion, and for which opinion no fee is allowed, unless the case is referred to a higher tribunal. Should, however, the case demand a trial in any superior court, the medical witness is bound over in heavy sureties to attend and give evidence at such trial; at the conclusion of which the Clerk of the Crown will not allow expenses for attendance, &c., at Petty Sessions, except upon a subpœna or certificate of such attendance from the committing magistrates.

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* This lectureship has been conferred by the Trustees of the British Museum on Dr. Carpenter. The lectures are delivered at the Royal Institution, Albemarle Street. For a course of twelve lectures on geology the lecturer receives £150 per annum. Comparing the salary with the amount of work performed, it may therefore be regarded as *the golden lectureship* of the metropolis. The office can be occupied only by a graduate of the University of Edinburgh.

And whereas the magistrates of the county for the division of Bury, have by the advice of their clerks refused to grant such certificates, it was unanimously resolved—

1st. That no member of this Society attend to give evidence in any criminal case at Petty Sessions, unless legally subpœnaed thereto; and that all the medical gentlemen of the town and neighbourhood be requested to conform to this resolution.

2nd. That a copy of the above be sent to the Medical Periodicals, the London Times, and the Manchester papers.

Mat. Fletcher; Jos. Goodlack; Wm. Rayner; John Parks; James Parks; H. J. Hinxman; Thos. Bott; William Plant .Woodcock; George Holmes; Henry Ashton; William Boutflower; John Chadwick; J. M. Conway; John Yorke Wood; James Lord; T. H. Wardworth, jun.; Robt. Harris; Richd. Preston; Thos. H. Wardleworth; James Lancashire; Epr. Young; Jesse Leach; Joseph Foster; J. W. Pickford; James Taylor.

Selections from Journals.

ON A NEW GALVANIC BATTERY. BY DR. THOMAS WRIGHT.

The voltaic battery, as an agent in the treatment of disease, has for some time been superseded by the electro-magnetic coil machine; and it has been rather too hastily concluded that the physiological action of the two instruments is identical. The electro-magnetic coil machine, even in its most improved form, is only capable of giving a succession of shocks and sparks resembling repeated discharges from a large Leyden jar weakly charged; whereas, in the action of the voltaic battery, three distinct effects may be readily observed:—first, *a shock* both on making and breaking contact with the battery, succeeded, with some interval, by the second effect, a *momentary sensation of strong heat;* and thirdly, the *continued passage of the voltaic current*, which, as Matteucci has shown, tends to depress or exalt the energy of the nerve as it is passed in the same or in the contrary direction to that in which the nervous influence is naturally transmitted. The above considerations have led me to give considerable attention to the improvement of the battery, and to the construction of the arrangement I proceed to describe.

Having left a Smee's battery (platinized silver and zinc) in a very strong solution of sulphuric acid, I found, on attempting to use it the next day, that a great part of the zinc was dissolved, and the electrolyte saturated with the sulphate. On transferring the plates to a vessel of fresh dilute acid, a considerable quantity of hydrogen continued to be evolved from the platinized plate, although the poles of the arrangement were unconnected; and a further examination showed that a crust of anhydrous (?) sulphate of zinc had extended itself between the plates, which, possessing a low conducting power, had closed the circuit as effectually as a fine copper wire could have done. It instantly suggested itself to me, that a plate having a coat of this salt might be rendered available as the negative plate in a voltaic arrangement, and that a battery might be thus formed of one metal, zinc, alone. After a long series of experiments, which I need not detail, it was found that sheet zinc continued inactive in a mixture of nitric and sulphuric acids, in the proportion of one part of the former to five of the latter; and that a battery formed of a porous cell, including a plate of zinc in the above mixture, surrounded by another zinc-plate immersed in a saturated solution of common salt, possessed considerable electro motive power, but not nearly equal to what I had calculated on. The negative zinc-plate was now removed, and, after having been well washed and brushed over with a solution of chloride of platinum, again washed, dried over a gas flame, and replaced in the porous cell. This arrangement (platinized zinc and zinc) formed a most powerful battery; a single cell, the platinized zinc of which was only two and a half inches square, gave most brilliant sparks and intense shocks with an electro-magnetic coil, and, after the plates had continued immersed more than five hours, was found not to have declined in power. The same arrangement was also found to have the power of decomposing water, with elimination of both the gases; and a small compound battery of twelve pairs, the porous cells of which were each thrust into a liqueur glass of moistened salt, and the arrangement completed by arcs of zinc, one half of each of which was platinized, gave shocks of considerable intensity. A zinc plate covered with plumbago was found to act well on first immersion, but soon declined, the coating having floated away with the solution. Copper and brass, which were also inactive in the acid mixture, developed a current more powerful than *unplatinized* zinc. A plate of sheet iron gave good results; this metal, which in concentrated nitric acid alone is inactive only for a short time, continues so in the nitro-sulphuric acid mixture.

The advantage of the platinized zinc battery is its simplicity of construction, the troublesome adjuncts of binding screws or mercury cups being unnecessary. Where several pairs are employed, the plates are bent into arcs, in such a form that the zinc, after leaving the solution of salt in one cell, rests with its platinized leg in the porous vessel of the next. The zinc, which need not be thicker than a card, is easily cut into proper shape with a pair of common scissors, and moulded on the porous troughs.

Since writing the above, I find that zinc is also inactive in a mixture consisting of water three parts, nitric acid one part, and sulphuric acid five parts, and that a pair of plates simply immersed in this solution, without the intervention of a porous cell, is capable of exciting a voltaic current, which I think will prove one of considerable energy. Care must be taken that the mixed acids are allowed to cool before use.—*Edinburgh Monthly Journal*, 1848.

BOOKS & PERIODICALS RECEIVED.

Sequel to Outlines of Medical Proof. By Thomas Mayo, M.D. F.R.S. &c.

Casper's Wochenschrift für die gesammte Heilkunde. Nos. 52, 53; Dec. 1848.

La Presse Médicale. No. 6; 4 Février.

London Medical Journal. No. 2; Feb.

The Ethnological Journal. No. 8; Jan.

Drummond's Observations on Natural Systems of Botany.

Cholera Gleanings. A Family Handbook. By Dr. J. Gilkrest, Inspector-Gen. &c.

Journal of Public Health. February 1849.

The Signification of a Fact in Medicine. By William Seller, M.D. &c.

The Seat of Headache in the Sympathetic Nerve, &c. By Wm. Seller, M.D. &c.

Holden's Manual of Dissection. Part I.

Thoughts on Pulmonary Consumption. By Dr. Madden.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Feb. 10.

Births.		**Deaths.**		*Av. of 5 Wks.*	
Males....	846	Males....	594	Males....	592
Females..	827	Females..	602	Females..	577
	1673		1196		1169

CAUSES OF DEATH.		*Av. of 5 Wks.*
ALL CAUSES	1196	1169
SPECIFIED CAUSES	1195	1164
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*..	345	221
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	47	54
3. Brain. Spinal Marrow, Nerves, and Senses	132	141
4. Heart and Bloodvessels	40	40
5. Lungs, and other Organs of Respiration	234	243
6. Stomach, Liver, and other Organs of Digestion	69	67
7. Diseases of the Kidneys, &c...	13	13
8. Childbirth, Diseases of the Uterus, &c.	11	9
9. Rheumatism, Diseases of the Bones, Joints, &c.	9	7
10. Skin	1	
11. Old Age..............................	47	73
12. Sudden deaths	15	14
13. Violence, Privation, Cold, &c.	24	37

Small-pox	15	Convulsions	48
Measles	13	Bronchitis	93
Scarlatina	55	Pneumonia	103
Hooping-cough ..	58	Phthisis	113
Diarrhœa	32	Dis. of Lungs, &c..	9
Cholera	55	Teething	10
Typhus	71		
Dropsy	22	Dis. of Stomach, &c.	9
		,, Liver, &c...	8
Hydrocephalus....	29		
Apoplexy..........	23	Childbirth	6
Paralysis	29	Uterus............	0

REMARKS.—The total number of deaths was only 27 above the weekly winter average. The deaths from cholera were by no means so numerous as those from typhus fever.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 30·28
,, ,, ,, Thermometer^{a} ...... 45°
Self-registering do.^{b} .... Max. 57° Min. 29·5

^{a} From 12 observations daily. ^{b} Sun.

RAIN, in inches. 0·06.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 7° above the monthly average.

NOTICES TO CORRESPONDENTS.

We regret that we have been unavoidably compelled to postpone until next week the communications of Dr. Arnott and Dr. Brookes.

RECEIVED.—Mr. T. Salter.—Dr. A. Clark.—Mr. Cox.

THE GENERAL INDEX.

We have to announce to our Subscribers that a GENERAL INDEX to the *first* 40 *Volumes* of the LONDON MEDICAL GAZETTE will, it is calculated, form a large Volume of about 700 pages. The cost of the INDEX VOLUME, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. WILSON AND OGILVY, 57, Skinner Street, will receive the Names of Subscribers.

Lectures.

CLINICAL LECTURE
ON
DROPSY,

Delivered at King's College Hospital,
October 24, 1848,

By R. B. Todd, M.D. F.R.S.
Physician to the Hospital.

(*Reported by* Mr. H. Hyde Salter, B.A., Med. Schol., K. C. L.)

In accordance with my custom of taking as the subject of my clinical remarks such diseases as may be exemplified by several cases in the hospital, I propose to make Dropsy the subject of the lecture to day.

We have had several cases of dropsy after scarlet fever, owing to the prevailing epidemic of that disease; two of these are still remaining in the house. There have been two cases of ascites connected with diseased liver; one of these patients has, within the last day or two, left the hospital improved; the other is still here, but he leaves in a few days, all his dropsy having disappeared. There is likewise a well-marked case of universal anasarca, commonly called *Acute* or *Inflammatory Dropsy*, very nearly allied to dropsy after scarlet fever; and a woman has been admitted within the last two or three days with dropsy of the lower extremities, and, in a less degree, of the upper extremities and face, with evident indications of some cardiac disease.

Now I propose in this and some following lectures to examine the pathology and treatment of these cases as illustrative of various forms of Dropsy; and it is not improbable that, before we finish the subject, other cases may present themselves in illustration of still other varieties of dropsy.

You are aware, no doubt, that dropsy is but a symptom,—an indication of a disturbed state of the circulation,—such as permits a portion of the serum of the blood, or of the liquor sanguinis,—very frequently, if not most frequently, the latter,—to transude through the parietes of the small blood-vessels, and thus escape into some serous sac, or into the areolar tissue, according to the situation and nature of the disturbing cause.

The simplest form of dropsy may be described as that which accompanies local derangements of the circulation. Women of weak constitution, whose tissues are lax and muscles flabby, and whose blood is probably deficient in some of its essential principles, or more watery than it ought to be, are prone to have swelled legs after standing or walking; the subcutaneous areolar tissue about the ankles becomes puffy, swollen, and pits on pressure, and this condition is always aggravated towards the close of the day. In such instances the erect posture deranges the circulation of the legs and ankles: an effect which may be produced in strong persons by a very long continuance of the same cause.

In phlegmonous and erysipelatous inflammations of the skin and subjacent tissue we find a state of œdema affecting the inflamed tissue, and also extending a greater or less distance around it. This is a state of dropsy, for it is caused by an effusion of serum or of liquor sanguinis into the areolar tissue, and this fluid can find its way thither in no other way than by filtration through the parietes of the blood-vessels. Examine carefully a patient labouring under erysipelas of the face, and you will find that the swelling is due entirely to the state of the subcutaneous tissue; and, in those parts in which the erysipelatous redness has not yet fully developed itself, that there is, nevertheless, swelling, and that the skin on pressure gives a doughy feel, and pits: the redness depends on the inflammation affecting the true skin, the swelling on the dropsy of the areolar tissue caused by the large attraction of blood to the cutaneous surface.

In like manner, when blood is determined in an unusual degree to certain membranous surfaces, dropsical effusions are apt to take place into the sacs which these membranes enclose. Hence the accumulations of serum or of liquor sanguinis which so often occur in the sacs of serous membranes after pleurisy, or pericarditis, or peritonitis; and it forms an interesting topic of inquiry and discussion, why these effusions should take place after some pleurisies, &c., and not after others,—why some pleurisies will afford no other effusion but that of a small quantity of liquor sanguinis, yielding more or less of plastic lymph, and others will pour out a sufficient quantity of fluid to fill the chest and compress the lung. I dare not digress into this interesting and important field of inquiry, but must content myself with stating my belief that the proneness to liquid effusion in the one case, and the absence of it in the other, is due to a difference in the physical constitution of the blood, which in the former instance is more liquid, and contains a larger amount of water, and less fibrin, albumen, and red corpuscles, than natural; while in the latter case the blood is either normal in its constitution, or contains an excess of fibrine. And I would add further my opinion, that the mode of treatment used in these serous inflammations exercises a very decided influence upon the occurrence or non-occurrence of such effusions, and that the practice of bleeding—especially of venesection—contributes much to the production of them. I can certainly state that, in cases of pleurisy, thoracic effusions have been of rare occurrence of late years in my own practice; and I explain it by the fact, that I have, to a great extent, abandoned the mode of treating these inflammations by large sanguineous depletions, and content myself with adopting other means of an antiphlogistic nature, which, although less showy and less bold, are safer, and not so trying to the patient, and ultimately more satisfactory both to him and his physician. It is to large venesection that I have a particular objection; and, indeed, my experience enables me to express the opinion that general bloodletting is unnecessary, and, therefore, superfluous in most cases of pleurisy. If blood is to be taken away at all, let it be locally, by the application of leeches, or, what is still better, by cupping.

You observe I make use of the expression "blood determined to a part." This is a phrase much used by medical men, and one which I think we may continue to use without disadvantage. It implies that the bloodvessels of a part obtain more than their usual share of blood, but expresses nothing as to the cause or the mechanism of the determination. Undoubtedly local determinations may arise from very different causes, and by very different kinds of mechanism. The problem, "Why a particle of dust adhering to the conjunctiva makes and keeps the conjunctiva as red as velvet," has not yet received a clear and definite solution. My own belief upon the point is, that local determination such as this—due clearly to the presence of some irritating agent, whether in the bloodvessels, or external to them—cannot be satisfactorily explained without assuming the existence of a force which operates directly upon the blood in the capillaries,—a *vis a fronte*, which, by its attractive power, assists and regulates, by distributing in due proportion the *vis a tergo* of the heart. An enfeebled condition of this force, and an augmented power of it, may equally tend to the production of very similar phenomena, often readily distinguishable by a practised eye, but which sometimes cannot be distinguished except by experiment. Under both conditions you may have determination of blood, congestion, or hyperæmia: in the one case it will be a passive, in the other an active congestion; in both cases you will have dropsy, *i. e.* effusion of serum through the walls of the overcharged bloodvessels, and this dropsy will be in one case active, in the other passive, but in both cases the proneness to dropsy will be favoured by the fluidity of the blood, its aqueous character, the diminished amount of its red particles.

In addition to other instances of dropsy from local causes already referred to, I may mention the following, as illustrative of the fact that dropsies are the result of retardation of the circulation in some part of its course.

Swelled leg, from the adhesive form of venous inflammation, or what is called *phlegmasia dolens*, is dependent on a plugging up of the femoral and other veins of the leg by the results of the phlebitis, whereby the circulation through the limb becomes obstructed, and you get an œdematous state of the whole leg. This is a condition very common in puerperal women, and which also occurs in men, sometimes after fever, sometimes from other causes. The researches of Dr. Davis and Dr. Robert Lee have given us the clue to the true pathology of these affections, and the explanation of the physical conditions upon which the swelling depends.

Pressure on a venous trunk or trunks will cause dropsy on the distal side of the pressure. This was illustrated long ago by the well-known experiment of Lower. This celebrated anatomist and physiologist tied the jugular vein of a dog, and found the areolar tissue of the head and neck enormously distended with serous effusion. Andral gives a case of dropsy of the peritoneum—ascites—caused by a tumor pressing on the vena portæ: the liver in this case was healthy, and the mechanical obstruction produced by the tumor was the sole cause of the effusion. Dr. Watson, in an admirable Essay on Dropsy communicated by him to the Library of Medicine, and which I strongly recommend to your perusal, mentions a case of dropsy of the upper half of the body, which was occasioned by an aneurism pressing on the vena cava superior, the lower half of the body having been free from all effusion.

Hydrocele is no doubt due to some local disturbance in the circulation of the spermatic veins. There are some interesting cases mentioned by Tonnellé, of extensive arachnoid effusion from obliteration of the sinuses; and I myself have seen cases of intra-ventricular effusion brought on by pressure on the venæ magnæ Galeni at their exit from the third ventricle of the brain. All these are very good examples to shew how the local retardation of the circulation may produce dropsy; the extent of the dropsy varying with the extent of the circulation upon which the obstructing cause may exercise its influence.

To this category must be referred all effusions that appear to result from enfeebled or deranged circulation through the heart. This may arise, first, from *simple weakness* of heart, where the nutrition throughout the whole body is languid, and the heart shares in the general weakness of the muscular system. You often see, as an accompaniment to this condition, and indeed as its cause, a watery state of the blood, and thus the very nature of the blood favours that transudation of which its tardy circulation is the exciting cause. The disturbance of the circulation falls most heavily upon the returning portion of the blood—that which moves most sluggishly, on which the *vis à tergo* is most feebly felt, *i. e.* upon the circulation in the veins. Whatever may be the cause of inefficient circulation through the heart, the veins are sure to feel it most, because the rate of movement in them is the most sluggish. Secondly, the dropsy may arise from physical obstruction in some part of the heart's mechanism. Suppose the obstruction is at the aortic orifice. The blood would be thrown back thence upon the left ventricle; thence to the left auricle, from that through the pulmonary veins, capillaries of the lungs, and pulmonary artery, upon the right ventricle; thence upon the right auricle; and so to the cavæ; and thus the venous blood returning to the heart is obstructed by an obstacle at the point of exit of arterial blood from the heart. If the mitral valve is affected, whether the derangement be obstructive or regurgitant, the effect on the general circulation will be felt in the same manner, and still more manifestly, inasmuch as there will be one link less in the chain that connects them. Thus, the nearer the obstruction is to the right side of the heart, the more considerable is the effect on the general circulation; and when it is *at* the right side, this effect is at the highest. Hence, when the right side of the heart is diseased, we always find the dropsy proportionally more abundant; and conversely, when the dropsy is very abundant in proportion to the other signs of obstruction, we might, as far as this evidence goes, infer that the disease is on the right side.

Of Dropsy after Scarlet Fever.

There is a remarkable form of dropsy, of which, I think, no adequate explanation has as yet been offered. This is a *general dropsy*, affecting not only the whole of the subcutaneous areolar tissue, but very frequently the serous sacs, the pericardium, the peritoneum, and the pleura, often the ventricles of the brain, and even in some instances the areolar tissue of the lungs. The dropsy to which I refer is that which follows scarlet fever.

The *conditions* of this dropsy are—1st, a particular state of the *skin;* 2nd, a particular state of the *kidney;* and 3rd, I would add, a particular state of the *blood:* and I think you do not get the dropsy fully developed without the concurrence of all three conditions; if any one of them is absent you may have a threatening of the dropsy, but the full result does not follow. Thus you may have the peculiar state of the blood, and the peculiar state of the kidney; but if the state of the skin be normal, the dropsy will be slight, or *nil.* Just so, when the peculiar conditions of the blood and of the skin is present, but the kidneys are healthy; and even if the particular state of the kidney and skin both existed, and under such circumstances, you could scarcely have a healthy state of blood; yet, if the state of that fluid did not correspond with that which is favourable to dropsy, you would have other symptoms,—head affections, for instance,—but there would be no dropsy.

You will find a good illustration of the ordinary clinical history of this dropsy in the case of a little boy in Sutherland ward: Thomas Dunn, æt. 5. He seems to have had mild scarlatina, and swelling appears to have come on shortly after the commencement of the desquamative stage. When he came into the hospital he was suffering from universal dropsy, affecting even his peritoneum. His skin was puffed out every where, especially over the penis, scrotum, extremities, and face, and it had that peculiar white, semitransparent, waxy appearance, which is so characteristic of these cases. I think it very probable, too, that there was either an excess of sub-arachnoid fluid, or what is more likely, slight effusion into the ventricles of the brain; for during the first two or three days after he came in he was very drowsy and lethargic; and no doubt the impure state of his blood contributed much to the lethargic condition. His urine was deficient in quantity, smoky in colour, and it shewed a great abundance of albumen on the application of the appropriate tests.

Now let us see in what way this case presented those three conditions the concurrence of which I have just now stated to be necessary to the production of dropsy.

1. The *skin* was dry, rough, and harsh, and there would seem to be an irritated state of it; but this irritation was not extreme; and I think it would have been better if it had been made more so, as it would have enabled the patient to have thrown off more completely by cutaneous elimination the poison of the malady; for it is a known fact that the dropsy occurs in the mildest forms of scarlet fever, in which there had been little or no eruption; but in those cases in which eruption had come out well, and that desquamation is consequently excessive, no trace of it is to be found.

2. The *kidney* was in a very analogous condition to that of the skin; as there has been a desquamative state of the one, so there has been of the other. When we examine the kidney in these cases, (and now, thanks to recent researches, of which those of our friend Dr. Geo. Johnson are among the first both in time and importance, we

have a very exact knowledge of its precise anatomical condition in this form of disease) we find it filled with epithelium, and the whole organ enlarged, and in a state of hyperæmia, as far as this great filling of the uriniferous tubes will permit it to be so. There is not only a large quantity of blood in the organ, from the undue attraction of blood to it by reason of its irritated state, but the blood is irregularly distributed in it. The principal anatomical change in the kidney results from the developement of an undue quantity of epithelium in the uriniferous tubes.

FIG. 1.

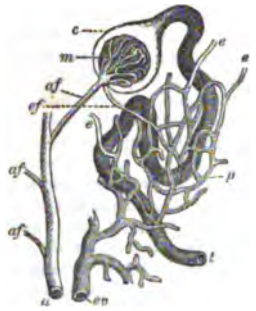


Fig. 1. Plan of the circulation in the kidney, and its relation to the uriniferous tubes in the normal state (after Bowman).

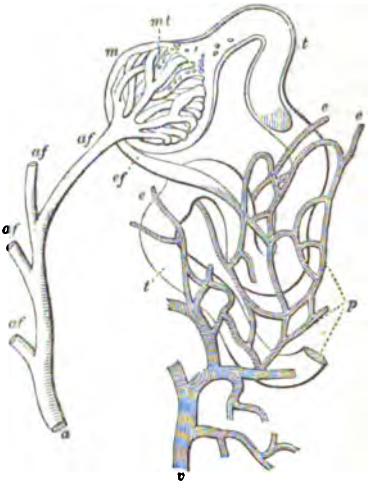
Fig. 2. A similar plan, shewing how the circulation is affected by enlargement of the uriniferous tubes. The tube is here represented as opened near the Malpighian body.

The same letters apply to both figs.

a. Artery. *ev.* radicle of emulgent vein. *af.* Afferent arteries passing to the Malpighian bodies. *m.* Malpighian capsule. *mt.* Malpighian tuft. *ef.* Efferent veins proceeding from the Malpighian tuft, and to *p.* the portal plexus. *ee.* Efferent vessels from other Malpighian bodies. *t.* Uriniferous tube.

The accumulation of epithelium creates an unnatural distension of the tubes, and the small vessels which ramify upon their walls (forming the portal vessels of the kidney) become compressed. Thus the blood is thrown back on the Malpighian bodies, so that the vascular system becomes irregularly supplied, the Malpighian bodies being very full of blood, but the portal system almost empty. Hence but a small portion of urine is secreted, and that containing serum or blood in large quantity; and this imperfect elimination of water is negatively a further cause for the accumulation of epithelia in the uriniferous tubes, as there is less fluid to wash them out.

FIG. 2.



The diagrams (Figs. 1 and 2) are intended to represent how the irregular congestion of the kidney in this disease takes place. One of them (Fig. 1) shows the arrangement of the vascular system with reference to the tubes in the healthy state; the other (Fig. 2) shows the tube enlarged, in consequence of the accumulation of epithelium in it; the afferent vessels being dilated because of the increased flow of blood to the kidney, and the efferent Malpighian vein being much enlarged from the obstacle to the free transmission of the blood through the portal plexus, which is represented as containing but little blood. The Malpighian tuft placed between the afferent artery and efferent vein of the Malpighian body is greatly enlarged, and two or three of the small vessels composing it are represented to be ruptured, and giving exit to the blood into the uriniferous tube.

The congestion of the Malpighian bodies, when it exists to a certain amount, produces effusion of liquor sanguinis into the tubes; but when it exists to a still greater degree, it leads to rupture of the Malpighian vessels, and the escape of *all* the constituents of the blood: in the former case, the urine is merely albuminous; in the latter, in addition to the albumen, we find in it an abundance of blood-corpuscles, and fibrinous casts of the tubes, from the fibrine having moulded itself to their walls in the process of coagulation. This is the state of the kidney, and accompanying it is always that peculiar smoky condition of the urine, very characteristic, into a particular description of which it is unnecessary for me at present to enter.

3. The *blood*. What is the condition of the blood? Whoever looks at our patient, and, indeed, at all patients labouring under this form of dropsy, will see at once that there is every indication of a great want of r ed

ticles, and a too watery condition of the blood. I know of no good analysis of the blood in the scarlet fever dropsy, but I would venture to say that there must be a deficiency of albumen, and that the specific gravity of the serum must be below the natural standard: sometimes considerably so. I have not ascertained it in the present instance, from my unwillingness to impoverish my patient's blood, already too poor; but I feel assured that any future case that might admit of the examination would confirm my supposition, and that the blood would be found deficient in its solid elements generally. Now this is a state that must be highly favourable to the filtration of the liquor sanguinis through the walls of the capillaries, under particular circumstances.

These facts, I think, will lead us to form something like a theory of the foundation of this dropsy. What we have got to explain is this, that to-day a child may be going on very well, and to all appearance in a favourable convalescence, and in a few days afterwards may rapidly become universally oedematous, with effusions to a greater or less extent in the various serous cavities, accompanied by scanty urine, smoky in colour, and albuminous; in fact, exhibiting all the appearances I have already described. I think, if you look to the three conditions which I just now mentioned, you will get it satisfactorily explained.

First.—From some cause not easy of detection, but in some instances undoubtedly from exposure to cold, there is an arrest to the proper elimination of the scarlet fever poison through the skin, its usual emunctory, and the ordinary excretions of water through that organ is checked; not obtaining complete egress there, the poison finds for itself another channel, and is thrown on the kidneys. Its passage through those organs produces great irritation in them, the effect of which is, that water is imperfectly eliminated, and thus the escape of water from the blood is prevented through its two ordinary channels—namely, the skin, which is *an* emunctory of it, and the kidney, which is *the* emunctory of it *par excellence*.

Secondly.—As a direct consequence of this obstruction to the escape of water through its two principal channels, a watery condition of the blood is induced. It is calculated that we get rid of three pints of water in a day, by the secretion of the kidneys, and by cutaneous perspiration, and certainly this is not too high an estimate. Now this water must be got rid of in some way or other, and when its usual channel of escape is cut off, it is very apt to permeate the parietes of the bloodvessels. But why do we find it particularly in the areolar tissue, and why in that of the skin more than any other part? It finds its way into the areolar tissue of the skin, in consequence of the determination of blood to the skin due to its state of irritation, for in order to reach the skin the blood must pass through the subcutaneous areolar tissue. It would be wrong, however, to suppose that the effusion was confined to the neighbourhood of the skin; we find it in the areolar tissue of the lungs, and in the serous cavities; in the former, because of the necessarily large flow of blood to the lungs; and in the latter situation, because of the great tenuity of the tissue of the serous membrane, which affords but little obstacle to the escape of the serous part of the blood.

Thirdly.—All this is favoured by the impoverished state of the blood. If the scarlet fever poison is not eliminated, it interferes with the proper nutrient changes which take place in the blood; and this is shown by the imperfect development of red particles. I think that the poison of scarlet fever interferes with their formation in the same way as that of rheumatism does, and indeed other poisons likewise, inorganic, as well as animal—as for instance, lead. This impoverished state of the blood undoubtedly interferes with the proper rate and vigour of the capillary circulation. That attractive force which I have already referred to, the capillary force, or *vis a fronte*, cannot be so vigorous when the blood is deficient in all or nearly all its solid ingredients, as when the fluid is healthy. It is not improbable, likewise, that there may be some other special chemical condition of the blood. Magendie and Poiseuille found that the introduction of alkalis into the blood occasioned a great retardation of the circulation through the capillaries, and consequent dropsical effusion: what the precise condition of the blood is in scarlatina has yet to be shown; at present we can only conjecture that some such abnormal state of it does exist; that is to say, that, besides containing too much water, and too little colouring matter, it contains some special chemical agent likewise, which interferes with its proper vital changes.

Many of you, doubtless, remember a case last year in Fisk Ward, which illustrated what I just now stated, that if there be free desquamation from the skin, even although there be also albumen in the urine, there will be no dropsy. In this case, which was very severe, with copious eruption, and great inflammation of the throat, we watched the urine from day to day. During the height of the fever there was no albumen in the urine; but when it subsided, the albumen began to appear: the skin then became irritated, and so abundant was the desquamation, that the cuticle came from his hands like the fingers of a glove. But at no period did the least indication of dropsy appear: desquamation was completed, and the albumen disappeared.

Such is my theory of the dropsy after scarlet fever. What may be the ultimate fate of it upon a larger induction of facts, I will not attempt to predict. I offer it to you now, as a convenient mode of connecting the various phenomena which accompany, and doubtless tend to the production of, the dropsy.

Treatment.—As you have in this disease a more or less irritated state both of the skin and kidneys, the first and chief indication for treatment is to allay that irritation. Now for this purpose I know no more valuable or efficient remedy than the warm bath: indeed, I would pronounce it *the* most valuable single remedy for this state of dropsy. You must use it frequently, bearing in mind, however, that both the disease and the remedy have a depressing tendency. You will be careful, therefore, not to use it oftener than your patients' strength will bear: most patients can bear it once a day for a few days: sometimes, however, you may give it twice in a day; but often you must not venture even upon the daily use of it. In cases where you apprehend the access of dropsy, you may often succeed in arresting it by the daily use of the warm bath during the period when desquamation is or ought to be taking place. The next most important remedy is purgatives, which by their action on the intestinal mucous membrane open a new emunctory for the elimination of water, and with it any poisonous ingredient dissolved or suspended in it. Jalap, calomel, scammony, the compound powder of jalap, singly, or variously combined, are very admissible for this purpose, or the saline purgatives. With these you may give some of the milder diuretics, which do not excite any direct irritative action on the kidneys; such as liquor ammon. acetatis, or bitartrate of potass. The last, in small doses, you will find extremely valuable. If, after a treatment of this kind pursued for several days, you find that the kidneys refuse to act properly, and that the urine is very smoky, take blood from the loins by leeches or cupping, to relieve the local congestion. I do not recommend you to do this early, during the more irritative stage of the renal affection, as you will find bloodletting then much less efficacious in diminishing congestion than at a later period. Take but little at a time, and rather repeat the bloodletting in small quantities, than take much at once. It very rarely happens, indeed, that patients labouring under this disease can spare much blood.

In pursuing this treatment, I pray of you to regard it not as antiphlogistic, but calmative and eliminatory, soothing cutaneous and renal irritation, eliminating water by the bowels, the kidneys, and the skin. For whilst using these remedies you must always support your patient by nourishing food, and often you must stimulate: frequently you will find the most signal benefit derived from giving port wine. Do not, when you feel that your patient's strength needs it, be deterred from giving stimulants by the fear of exciting fresh irritation of the kidneys. Your best guide as to the propriety of continuing stimulants or any other food, is the facility with which your patient *digests* them. If they create flatulence, gastric distress, pain, or any other symptom referable to the stomach, you must diminish the quantity or stop the supplies.

Sometimes in the course of this disease you have symptoms of head affection. These arise either from dropsy of the ventricles, or from poisoning of the brain by retained urea. Free counter-irritation immediately and extensively applied to the nucha or the scalp, is the best remedy; and generally speaking, bleeding, local or general, is inadmissible. Sinapisms, succeeded immediately by blisters, are most valuable remedies in these head affections.

The boy whose case has formed the text of this lecture was treated much in the way I have described. He came in on the 15th October, and I ordered him a daily warm bath, and mild purgatives. The next day I made a slight alteration by giving him a more drastic purge, in the shape of a dose of Pulv. Jalap Comp. which carried off an abundance of watery stools. The next day, 18th, he passed a pint and a half of urine, and the dropsy had greatly diminished. The next day he passed two quarts of urine; and from this time it is wonderful with what degree of rapidity the kidneys continued to secrete: this great diuresis is frequently to be noticed in this form of dropsy. On the 19th he passed 2½ quarts. Under these circumstances it is not surprising that the dropsy almost entirely diminished. Still there remained a little smokiness of colour, indicating the escape of blood, and, with the view of checking this, and remedying his anæmia, I have given him a little citrate of iron, under which treatment he has been rapidly improving, and he is now nearly well.

This case affords a good example of the termination of this malady, as well as of its course. Dropsy after scarlet fever is by no means a disease of fatal tendency, more especially when the preceding fever has been treated mildly, and with due regard to preserving the powers of the patient. Furthermore, I should not prognosticate any peculiar liability of this, or other patients similarly affected, to renal disease hereafter. I know that some deservedly high authorities think otherwise; but it seems to me we need much more proof than has yet been offered before we shall be justified in affirming that the state of kidney in scarlet dropsy predisposes either to the large fatty kidney of Bright or to the chronic nephritic disease.

Original Communications.

CONTRIBUTIONS
TO THE
PATHOLOGY OF THE SKIN.

By T. H. Burgess, M.D.,

Translator of Cazenave's Manual of Diseases of the Skin.

"Quidquid præcipies, esto brevis: ut cito dicta
Percipiant animi dociles, teneantque fideles."

No. I.

INTRODUCTORY REMARKS.

Regional Pathology of the Skin.

La Bruyere remarks, in one of those sententious aphorisms which will endure so long as energy and felicity of expression are admired, that an individual who takes upon himself to write for the instruction of others should explain whence he derives his information, to enable people to judge beforehand whether his observations are worth the trouble of reading or not.

Impressed with the force of that dictum, and the fairness of the principle involved in it, I think it right to state at the onset that I am mainly indebted to recent observation at the Hospital of St. Louis, and to the enlightened liberality of M. Cazenave, who so ably fills the place of Biett at that institution, for the subject-matter of the series of papers on Diseases of the Skin which I now commence. I am also bound to acknowledge the advantage I have derived from the excellent *cliniques* of M. Gibert at the same hospital. Still more recently I have had the opportunity of observing the Italian method of practice at the chief hospitals of Northern and Central Italy, where I noticed that M. Cazenave's Manual of Diseases of the Skin was the text-book of the students.

The aim of these "Contributions" is practical utility, to secure which I have avoided all historical details and useless discussion; and above all, futile attempts at forming classifications; for to establish one that will endure, is an impossibility in the present progressive state of anatomical science. It appears to me, that in the absence of a classification founded on a lasting basis, the best method of studying cutaneous disease is by dividing the surface into *regions*, and observing attentively the diseases as they occur in each particular region. It may be objected to this arrangement that the same disease may appear on any part of the skin; but the objection will not hold good either in practice or theory. Every practitioner knows that the sensibility of the skin, and its susceptibility to disease, are in no two places alike, and moreover, that the structure of the skin itself is not the same throughout. For example, the skin of those parts where the hair grows is more complicated than that on other parts of the body where this appendage is not produced. The skin of the palms and of the soles of the feet differs considerably from that of the scalp, or from that on which the beard grows. The capillary circulation also modifies the tendency of the cutaneous envelope to disease. For instance, the facility with which the blood advances to, and recedes from, the surface on the Face and Head, and the mechanical obstruction to its return in the lower extremities, must necessarily influence the production of cutaneous disorders in those regions, but each in a different manner. Indeed, the characters of the same disease will often vary so as to give an idea of a totally different complaint according to the region in which it is developed. We know, for example, that the itch never attacks the Face, nor lupus the Hands, and that eczema or impetigo have a very different appearance on the head from that which they present when developed on parts not covered by hair.

As the study of anatomy is greatly facilitated by dividing the body into regions, and describing the regional anatomy of these parts, so it appears to me that a knowledge of the Pathology of the Skin might be equally facilitated by dividing the cutaneous surface into regions, and describing the diseases of each region separately. Students are taught the surgical anatomy of the head and neck (including the face); may they not study with equal advantage the pathology of the skin of the same region? for although most of the diseases of that structure may appear on any part of the body, we know from experience that many of these show a decided predilection for certain parts of the surface, where, consequently, they are most frequently met with, and easily understood. Whether this analogy will hold good in a theoretical point of view or not, I know, from personal observation, that the practical utility of the method proposed is undoubted, and I have adopted it myself with profit As an illustration of the advantages this method holds out to the student, let us take the *exposed surfaces* (as the face, head, and hands), the regions in which cutaneous disease most frequently occurs. He will soon learn that the common eruptions of the Face are limited to ten or twelve in number, those of the Head to five or six, and those of the Hands to one or two more. Instead of floundering through the mazes of some fanciful classification, he is thus enabled at once to individualize the complaint, to distinguish it from the limited number which observation has taught him are prone to appear in that region, and, as a matter of course, to enable him to prescribe the proper method of cure. I am convinced that this is an improvement on the routine system of studying cutaneous pathology from classifications which are commonly as arbitrary as they are ephemeral.

The early writers on diseases of the skin detached this class of affections from general pathology, for the purpose of studying their history more intimately than had been done by systematic writers on medicine. As a means of arriving at a more precise nomenclature and accurate diagnosis than had hitherto prevailed, the adoption of this course has been attended with complete success, but unfortunately the relation of cutaneous diseases to general pathology has been too frequently overlooked in the anxiety to establish nice distinctions and correct classifications. The result is, that the source which has furnished us with those indispensable elements for the study of this branch of medicine has also served to perpetuate erroneous views as to the nature of the diseases themselves, and an irrational empiricism as regards the treatment. In point of fact, the subject of cutaneous pathology has been too long specialized, and viewed as a distinct branch of medicine, having little or no connexion with any other; whereas the great majority of cutaneous affections are symptomatic of other diseases affecting different organs, and are but the outward manifestation of those complaints, or an accompanying symptom. Several of the recent German writers on cutaneous disease entertain nearly similar views, amongst whom I may mention MM. Hebra, Füchs, and Rosenbaum; and the two former especially, from their deserved popularity in Germany, have been able to give a considerable stimulus to the philosophic study of this branch of medicine. In short, the sympathetic connexion between the skin and mucous membrane is so evident that, as Mr. Bowman has well observed,—"It is impossible, in the present state of knowledge, to treat of those large expansions of mucous membrane in the interior of the body apart from the true glands and the skin, which form with them a great system.*

We must take a more comprehensive view of cutaneous maladies, and study this class of affections more in the light of *general* diseases than we have been accustomed to do, if we wish to arrive at an accurate knowledge of their nature; for daily observation proves that the study of diseases of the skin cannot be detached from that of general pathology, and of the many morbid conditions with which they have such numerous and varied relations. Indeed, it would be a grave error to separate certain cutaneous eruptions from lesions of other systems, when both derive their origin from the same cause, and are in reality but different symptoms of one and the same disease. The eruptive fevers and the syphilides, for example, are constitutional diseases, or rather the sequels of constitutional diseases, and to view them in the light of special or local affections would be to mistake their nature altogether. Eruptions of constitutional origin, however, by long standing may sometimes assume a local character. Erysipelas and acne frequently supervene in cases of derangement of the uterine function. Strophulus is associated with the process of dentition. Urticaria, lichen urticatus, and several varieties of herpes, are often the results of a disordered condition of the digestive organs. Psoriasis and lichen agrius frequently occur during the process of gout and urinary diseases; and the hereditary nature of certain eruptions, as lepra, psoriasis, lichen, &c., is beyond all doubt. Unless we bear in mind, in our treatment of these eruptions, their intimate relation with the organic function, we are constantly liable to serious error. If, for example, we were to look upon those critical eruptions or discharges which occur at certain periods of life as *local* diseases, and attempt to suppress them by topical applications, it is unnecessary to add that serious consequences would result; whereas, if they are not interfered with, they will get well as soon as the equilibrium of the system is restored. The impetiginous eczema of infants, and those eruptions which occur at the periods of puberty and the turn of life, are examples of this kind.* A knowledge of cutaneous diseases, in fact, implies familiarity with the general principles of pathology, and, above all, with the doctrine of the sympathies, with general infections, idiosyncrasies, the effects of regimen, and modes of life.

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* "The skin, mucous membranes, and secreting glands, consist of certain elements, some of which are essential to their tissues, others appended or superadded; and the broad characteristic distinctions between these structures, appreciable to ordinary sense, are solely due to modifications of their elementary parts."—*Cyclopædia of Anatomy and Physiology*, art. Mucous Membrane.

The theory of the vegetable origin of certain diseases of the scalp, first propounded by Unger in 1833, has attracted the attention of dermatologists to that subject, and has found several supporters; amongst whom I may mention the names of Schöenbein, Grüby, Meynier, and Gibert. The disciples of Unger have extended the application of his theory to cutaneous eruptions of other parts of the body. Thus M. Gruby has announced the vegetable origin of mentagra or sycosis; in short, that this disease is a sort of cryptogamic plant. This writer considers the vegetations of *favus* to belong to the group of *mycodermata*, while Unger is of opinion that the pair are analogous to the "exanthemata of plants." Admitting the existence of these vegetable fungi in favus, sycosis, &c., it is sufficiently evident, from the memoirs of Gruby and Dr. Hughes Bennett, that they are the *result* and not the *cause* of these diseases; moreover, it does not appear that they are invariably present in all cases. It seems to me that these so-called vegetations are mere moulds, consecutive of the elementary disease, and not the disease itself. No one now doubts the existence of the little insect (*Acarus Scabiei*) in the human skin in cases of itch, but it by no means follows that it is the origin of that disease. I have had the opportunity recently of assisting at a series of experiments conducted by M. Bourguion at the Hospital of St. Louis, on the *acarus scabiei*, with the view of improving the treatment of itch, which I shall refer to when I come to treat of that disease.

The researches of those dermatologists who first cultivated this subject as a distinct branch of medicine, have furnished us with a code of rules by means of which we are enabled to ascertain with remarkable accuracy the form and diagnosis of each individual eruption; but here the utility of their instruction ceases. It is not sufficient to be able to tell whether any given disease be pustular, papular, or vesicular: we must go farther than this, and endeavour to unravel the intimate nature of the eruptions themselves, in order to arrive at a knowledge of those general laws which must necessarily regulate their progress and development: in a word, it is necessary to generalize our views of diseases of the skin more than we have been accustomed to do, and to submit them to the general laws of pathology. The recent and valuable discoveries on the anatomy of the skin by Schöenlein, Gruby, Simon, Henle, Bowman, and others, are eminently calculated to facilitate our attempts towards establishing a more enlightened pathology; for it is evident that the vague and erroneous ideas which formerly prevailed on the structure of the cutis were the chief means of arresting inquiry into the diseases of that organ, and of involving the whole subject in an obscurity which had become proverbial.

Let it not be supposed, however, that a knowledge of the anatomical seat alone is sufficient to enable us to ascertain the nature of an eruption; but where assisted by pathological observation, by the examination of portions of the *diseased skin* through the microscope: for what it is important to learn is, the pathological process by which the diseases manifest themselves on the skin, and the alteration which this structure undergoes, and by comparison of similar lesions in other organs with that under consideration. It is the best means of discovering the nature, and of indicating the treatment of cutaneous disease,—in a word, of dispelling the errors and illusions of a blind empiricism, and substituting in their stead, pathological facts, and a rational method of treatment.

Diagnosis.

The importance of an accurate diagnosis must not be lost sight of as an element in the study of diseases of the skin. After ascertaining the form of a disease, the next step is to identify and distinguish it from all other cutaneous affections, including varieties of its own species. It is obvious, therefore, that the utility of all subsequent inquiry mainly depends on accuracy of diagnosis in the first instance. Indeed, it is pretty generally admitted that one of the principal sources of the error which so long prevailed in this country as to the history of skin affections, is owing to the want of opportunity of observing the various eruptions from their commencement to their termination,—a contingency which must always occur while the practitioner has to depend on the irregular attendance of out-patients for his information. This class of invalids, it is needless to say, only attend the hospital or dispensary when it suits their convenience and inclination to do so, especially when no urgent symptoms are present; and, in nine cases out of ten, the physician is enabled to see the disease but twice or three times during its progress. When we recollect the slight difference that exists between a vesicle and a pustule in certain stages of their course; that the bulla of rupia often closely resembles the pustule of ecthyma, and moreover that the fluid of a vesicle may dry into a scab or incrustation; the fallacy of such a means of arriving at pathological facts, and precise descriptions of disease, must be sufficiently obvious. To understand thoroughly the diagnosis of the important class of diseases under consideration, it is necessary that they should pass before the eye of the student in every phase of their existence; and this desideratum is only to be obtained in an institution like the Hospital St. Louis, where the patients are admitted and retained during the progress of the disease. These remarks are particularly applicable to diseases of the face; for, amongst the great variety of eruptions to which this region is subject, it is obvious that there must be a considerable variation in the degree of severity of each, and in their appropriate treatment. For instance, a small herpetic ring, the vesicles of which are slightly exfoliated, situated on a perfectly sound and red surface, may often be mistaken for a patch of lepra without scales. It is needless to dwell on the evil results, as regards the treatment of the patient, sure to follow an error of this kind; but happily this mistake may easily be avoided, and cannot occur to any careful observer; for the depression in the centre, and the prominent border of the leprous patch, may readily be distinguished from the even surface and the debris of vesicles so characteristic of the rings of herpes. Besides, there are generally several patches of lepra present at the same time, some of which are sufficiently developed to indicate their real nature.* Again, herpes circinnatus may be confounded with porrigo scutulata, the name *ring-worm* being erroneously applied to both. However, one is a vesicular, and the other a follicular disease. The latter is of long duration, forms thick scabs, is contagious, destroys the hair when it occurs in that neighbourhood; while the former is a mild affection, lasts but a short time, never destroys the hair, and terminates by desquamation, or by insensible exfoliation. The rings of lichen circumscriptus are not much larger than those of herpes circinnatus, and hence it is sometimes difficult to distinguish one from the other. Here we must depend principally on the nature of the elementary lesion for a means of diagnosis, which in the former case is a papule, whilst in the latter it is a vesicle. The nature of the eruption once ascertained, the treatment is exceedingly simple, and of short duration.

A knowledge of the elementary lesions is indispensably necessary before we can form a correct diagnosis; and an acquaintance with the secondary products will materially assist in attaining that end, and in distinguishing one variety from another. Having ascertained the form and situation of a given disease, we should next proceed by elimination — the method recommended by M. Cazenave—to discover the nature of the elementary lesion. By a mental process, which habit renders extremely easy, we may compare the physical characters of the disease before us with those of all other diseases of the skin, and so speedily arrive at a knowledge of this elementary lesion, which it is so important to understand well. If, for example, we observe an elevation of the cuticle caused by the effusion of a clear transparent serous fluid, we discard, by the process of elimination referred to, the exanthemata, papulæ, vesiculæ, &c., and thus finally ascertain the vesicular character of the eruption. We have, then, merely to compare the disease under investigation with the different varieties of the vesicular eruptions, in order to individualize it. Continuing the same process of inquiry, a knowledge of the secondary products which form the basis of Willan's classification will enable us to distinguish the varieties themselves from each other, to separate eczema from herpes, itch, &c., and so with the various other forms of cutaneous disease. This preliminary method of elimination is absolutely necessary in the study of diseases of the skin; for without it, correct diagnosis is impossible; and, as I have elsewhere observed, diagnosis is of the first importance; for, by disclosing the elementary nature of the disease, it enables us to prescribe a rational and enlightened method of cure.

Treatment.

No branch of pathology abounds with greater interest, or opens a more fertile field for pathological research, than that which embraces a consideration of the etiology and therapeutics of diseases of the skin. The circumstance of their occurring on tangible parts of the body, where their characteristic phenomena are appreciable by the eye, gives the student of this class of affections many and great advantages over the internal pathologist, for, to a certain degree, it approximates their study to that of a positive science, and dispels the conjecture and illusion which are more or less connected with the treatment of the lesions of organic life. The relation of cutaneous diseases to general pathology here claims our special attention. If we assume, and it is not far from the truth, that a vast majority of diseases of the skin are the result of constitutional debility and disorders of the digestive organs and of the fluids, it is clear that an inquiry into the condition of the functions must be instituted, and their present state ascertained, as far as it may be, before a correct method of treatment can be prescribed. The doctrine of crises is intimately associated with the history of eruptions of the skin, and it is of as much importance to know whether a given eruption is a critical and salutary discharge or natural counter-irritant, as to be able to tell the tissue in which it is seated, and its anatomical element. If, for example, a patient presents himself with an eruption, which does not appear to be produced by any external or accidental cause, it is the duty of the physician to ascertain if it is the result of organic disease or constitutional disturbance; and if we examine with ordinary care and minuteness the previous mode of life of the patient, the state of his constitution, and the antecedent diseases, we cannot fail to arrive at the true origin of the disease.

Thus, we frequently find a certain form of impetigo to be in reality but the expression of an exaggerated lymphatic temperament, an obstinate variety of eczema the external manifestation of functional disturbance of the apparatus of secretion, and frequently of the digestive organs; acne is commonly associated in females with disorder of the uterine functions, prurigo with an exalted state of the nervous system, and pemphigus with organic disease of the liver. It is obvious that to treat any of these eruptions as special diseases of the skin, and of entirely local origin, would be acting more in accordance with an irrational empiricism than with the true principles of medicine. Again, the hereditary predisposition which undoubtedly exists in numerous cases towards the production of what may be called the *special* diseases of the skin, should be taken into account in the treatment of any of these complaints. Lepra, psoriasis, and ichthyosis, belong to this category: they are frequently the result of a vicious modification of the economy, which is hereditary and altogether inexplicable. I have observed patients who were literally encased in a scaly envelope of psoriasis, otherwise enjoying the best possible health. The internal functions were undisturbed, and the only inconvenience experienced was the mechanical impediment caused by the thick scaly covering to progressive motion. The various phases of life have also their peculiar influence in the production of skin complaints, which it will be well to bear in mind. It is during the period of infancy and childhood, for example, that we most commonly meet with fevers, certain forms of impetigo, variola, scarlatina, and measles; whereas in the decline of life we observe those chronic non-specific eruptions which indicate an enfeebled and decaying vitality. There is besides a degree of irritability and delicacy in the skin of some individuals, especially in females, which renders them more susceptible of cutaneous eruptions than persons of a duller sensibility of the surface. This condition is often hereditary, and individuals so circumstanced are generally attacked in spring or summer with one or other of the slight ephemeral diseases. A warm temperature,[*] either natural or artificial, by causing increased determination to the vessels of the surface, or spiced food, and spirituous liquors, exaggerate this state of irritability into that of disease, and consequently should be avoided. Indeed, as Alibert has well observed, we should look at the skin as the double instrument of exhalation and absorption, as the deposit or reservoir of an exquisite sensibility, as the agent of most favourable crises in disease, and not merely as a means of defence against the contact of external substances capable of injuring more vital parts, as it is popularly considered.

From the preceding observations it will be seen that the treatment of cutaneous eruptions should always be considered with relation to their etiology. When they are produced by external causes, the treatment is extremely simple, and consists in hygienic measures, emollient applications, and general remedies adapted to the age, condition, and constitution of the patient. When, on the contrary, they are induced by constitutional causes, and the result of internal organic lesion, we should endeavour to ascertain what that lesion is, and where it is situated; and the treatment should be principally directed against this functional or organic cause—the *fons et origo* of the disease. The special diseases of the skin, as lepra, psoriasis, &c. require specific treatment, consisting in the employment of certain powerful remedies which experience has shown to be the most efficacious in this class of maladies.

Amongst the various remedies used in the treatment of skin complaints, I may mention in a general way the following, as those most commonly employed at the Hospital of Saint Louis by M. Cazenave, and attended with the greatest amount of success. Local and general bleeding in the acute inflammatory eruptions; purgatives and alteratives, as slow and gentle derivatives; alkalies in the pruriginous affections; acids in those eruptions with copious exhalation; antimonials in the chronic diseases, especially the squamous; preparations of sulphur, useful only in certain chronic varieties, and greatly overrated by most writers; sudorifics, employed in all the rebellious forms of dermoid complaint; mercury and the arsenical preparations, which, although belonging to the class of empirical remedies, are undoubtedly the most efficacious remedial agents we possess against constitutional skin complaints. Baths, simple and compound, are freely used, also the vapour bath and douche; ointments of sulphur, mercury, and iodine; escharotics, as the nitrate of silver, the arsenical paste of friar Côme; the acid nitrate of mercury, and the chloride of zinc. I have seen these several remedies extensively employed at the Hospital of Saint Louis by Biett, and his able successor M. Cazenave, with excellent effect; and I have continued to prescribe them myself for several years past, both in dispensary and in private practice, with similar good results.

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[*] Cutaneous diseases are extremely frequent in Italy, as may be supposed from the extensive demand upon the perspiratory apparatus, and the rapid vicissitudes of temperature. The stealthy blast of the *sirocco* in the south, and the piercing *tramontana* in the north of Italy, are equally effectual in shutting up the natural gates and alleys of the skin. The operation of so free and important a function cannot be suppressed with impunity, and the least injurious result that can happen is the development of inflammatory disease in the cutaneous structure. If any of the internal organs, as, for example, of the lungs, are weak, they are sure to suffer: hence the folly of invalids of this class expecting to derive permanent benefit from a short residence in Italy. I feel convinced, from what I saw and experienced in that country, that no greater folly or delusion prevails than that of expecting patients suffering from consumption to be cured or even permanently benefitted by the climate of Italy. At all events, those consumptive invalids who survive the process of being *acclimaté*, should never leave the country; but as I shall return to this subject at a future period, it is unnecessary to dwell further on it now.

There is a remedy which exercises a powerful influence on the cutaneous exhalents, that I can specially recommend in the treatment of the more rebellious forms of disease of the skin—namely, *phosphorus*. My attention was first directed to this remedial agent during the period of the cholera in 1832, and I then found it successful, when every other remedy had failed, in several cases of that disease, where the vital powers seemed exhausted, and the patient in the lowest state of collapse. In these cases it seemed to act as a violent stimulant, principally through the nervous system, accelerating the circulation, and exalting the muscular irritability in the highest degree. I can now recommend it as one of the most valuable medicinal agents we possess in those inveterate cutaneous diseases, leprosy, psoriasis, lupus, in which the skin seems to adapt itself to the morbid condition, which it retains with singular tenacity against all the usual methods of treatment. The phosphorus treatment of those maladies may be either external or internal. The best method of administering the remedy internally is dissolved in oil or ether, and the phosphorated oil or ether then mixed with powdered gum arabic and mint water. Camphorated lard is the most appropriate vehicle for administering phosphorus externally. Its energetic revulsive properties may likewise be turned to account in certain diseased conditions of the skin. Phosphorus, the iodides of arsenic and of mercury, and cantharides, are the most powerful internal remedies for skin diseases we possess. I have also found iodine and sulphur, and iodine and mercury, in the form of vapour, excellent local remedies in the chronic eruptions.

By attending to the rules for studying diseases of the skin inculcated in the foregoing remarks, the student will soon perceive that this branch of medicine is not so obscure and impenetrable as it is generally supposed to be; but, on the contrary, that the lesions of the skin may be easily understood, are tangible, and more amenable to the judicious application of a rational therapeia than chronic diseases of most other tissues.

12, Half Moon Street, Piccadilly,
February, 1849.

CASE OF DEATH FROM STARVATION.

By W. P. Brookes, M.D.

Fellow of the Royal Medical and Chirurgical Society; Surgeon to the Cheltenham General Hospital and Dispensary, and Visiting Medical Officer to the Cheltenham Division of County Lunatic Asylums, &c. &c.

As cases of starvation in a civilised country like our own are happily rare and unseen, I consider the post-mortem examination of the following subject may prove of interest to the members of the profession. I shall, with your permission, claim a space for its insertion in the pages of your journal. I was requested by Mr. Gabb, surgeon of this town, to be present at the examination of a child, upon whom a coroner's inquiry was sitting, and whose death had occurred under circumstances requiring investigation, no medical man having been called in by the parents during the life of the child.

On entering the house, the aspect of it altogether struck me as most miserable and uncomfortable,—no bedding or covering for the family, and the whole of the house exposed to currents of air through the floorings and walls, with the roof of the house mostly uncovered. I found two of the children who were living in this wretched abode, looking pale, bloodless, and emaciated,—evidently exhausted from want of proper food and warmth, and one suffering from an affection of the scalp.

Post-mortem examination of the boy who had died on Sunday, January 7th, 1849, took place on Friday, January 12th, aged 4 years next April. *General appearance* of the body emaciated; great pallor of the skin and eyes; much putrefaction had taken place, and the body gave out a most offensive, disagreeable odour. On cutting through the skin, we found very little adipose tissue; eyelids open; conjunctivæ white; pupils dilated; tongue and throat appeared dry and much parched.

Heart small and flabby; of a pale colour; contained very little fluid.

Pericardium healthy, containing a small quantity of serum; *lungs* of a light colour, collapsed, healthy; *gall bladder* nearly full of bile; *liver* larger than natural; healthy; *spleen* and *pancreas* healthy. *Abdominal region.*—Stomach collapsed; contained one teaspoonful of fluid; its coats tinged with bile; *intestines* collapsed, pale, and empty; of a yellow colour, from the bile; *rectum* and *bladder* empty; *kidneys* natural; *mesenteric glands* larger than natural; appeared quite healthy; *brain*, for the age of the boy, large; sinuses contained but little blood, and the substance of the brain was pale and bloodless, otherwise in a natural state.

It will be remarked in the above case, that no signs of disease sufficient to cause death were discovered on a post-mortem examination; and from the general aspect of the body, and the following facts, we came to an opinion that death had been the result of starvation: this was formed from the absence of adipose tissue, want of red blood in the brain, which was many degrees paler than usual; contracted lungs; absence of food in the stomach, and fæcal matter in the intestines, which were also contracted; want of fæces; no signs of poison in the stomach, and its mucous lining was natural and healthy.

I regret to say this gives another melancholy instance of what the vice of drinking will lead to, for the parents of the unhappy child, although in the receipt of upwards of one pound weekly, had allowed their unfortunate offspring to starve—I hesitate not to say for want of proper food and nourishment—while they both, I fear, spent their means in the ale-house.

Albion House, Cheltenham,
January, 1849.

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 15th February, 1849.—William Bratt, Stratford-on-Avon—John Hall Bywater, Knottingley, Yorkshire.

MEDICAL GAZETTE.

FRIDAY, FEBRUARY 23, 1849.

The Quarterly Return of Mortality, which has just been issued by the Registrar-General, is, on the whole, very satisfactory. The deaths for the quarter ending December 31st, were below the number registered in the two preceding years.

Quarter ending Dec. 31.	Deaths registered.
1846	53,055
1847	57,925
1848	46,123

Hence, notwithstanding the increase of population, the decrease of deaths in 1847 is 11,801, and in 1846, 6,931. Taking the increase of population into account, the deaths are 2,571 below the average of the nine preceding years.

"The general mortality of the country was comparatively low in the five years of 1841—5; in the middle of 1846 epidemics set in, and proved fatal through the rest of 1846, through 1847, and the winter of 1848. A manifest improvement took place in the spring of the year 1848; the summer was of the average degree of health; and although cases of cholera have occurred in London, and several districts during this quarter, the returns in the subjoined tables prove that the epidemic has hitherto produced no sensible effect on the mortality."

"The deaths in London were 14,725; of which 5,137 were caused by diseases of the zymotic class: namely—1,765 by *scarlatina*, 883 by typhus, 472 by hooping cough, 126 by erysipelas. Scarlatina has been epidemic, and has raged with great violence. It has destroyed more lives than any other disease; and shows no sign of abatement. The deaths by scarlatina in each of the four quarters of 1848, were 615, 816, 1,560, and 1,765; making 4,756 deaths in the aggregate. Small-pox was fatal to 413 persons; chiefly children who had never been vaccinated. The deaths from small-pox in the autumns of 1841—47, were 75, 108, 115, 571, 106, 42, and 372. Nearly all these deaths arose from the neglect of vaccination; which, under a recent act of the Legislature, is nevertheless gratuitously performed on all applicants, at stations in every district of London. *Typhus* was fatal to 883 persons: this disease is decreasing, for the deaths in the autumn of 1847 were 1,279. The deaths from cholera were 468: the deaths in the autumns of the seven previous years were 3, 13, 14, 5, 11, 15, 12. Consumption was less fatal than usual: only 1,450 persons died of that malady. Heart diseases, lung diseases, and liver diseases, were much less fatal, not only than in 1847, when influenza was prevalent, but less fatal than in the autumn of 1846. *A hundred and sixty-three* mothers died in childbirth: about 17,774 children were born alive; so that one mother died to every 109 children born alive. Of the deaths, 100 were ascribed to *metria*, or childbirth fever. The mortality from this cause is high, and deserves grave consideration. Thirteen deaths were ascribed directly to intemperance. *Thirty-four* deaths are referred to *delirium tremens*, generally the result of drinking spirits to excess—a slow but certain suicide. Of the violent deaths, 24 were caused by poison, 31 by wounds, 22 by hanging, 68 by drowning, 63 by burns and scalds, 131 by fractures and contusions."

The returns from the provinces are also satisfactory. The cholera appears to have made no progress, and has nowhere perceptibly affected the rate of mortality. In reference to the relative number of deaths produced by this disease in London at the different seasons of the year, and over a period of nine years, the subjoined table will be found of interest:—

Deaths in London from Cholera in each of the four quarters of the years 1840-48.

Quarters ending	March	June	Sept.	Nov.
1840	3	4	53	6
1841	1	1	23	3
1842	...	7	106	13
1843	6	8	60	14
1844	4	9	47	5
1845	4	2	26	11
1846	7	9	197	15
1847	3	4	98	12
1848	9	17	153	468

It must be remarked, however, that these deaths include cases of common English cholera, as well as of malignant cholera. This statistical table proves that the deaths from this disease are comparatively much more numerous in the two last, than in the two first quarters of the year; and it also shows, from the great number of deaths from cholera in the winter quarter of 1848, that we have now among us causes in operation which render the disease much more fatal. Thus, while in eight years, from 1840 to 1847, it caused only 79 deaths, in the corresponding quarter of 1848 it destroyed 468 persons.

THE following letter from a dentist, desirous of adding to his practice on the principle of *quocunque modo rem*, has been forwarded to us by a correspondent to whom it was addressed:—

"Sir,—I hope you will excuse my troubling you with this communication.

"I am a dentist of considerable practice, but wish to extend it by the recommendation of medical men.

"If you will do me the favour to recommend those of your patients who require a dentist to my care, I shall be most happy to present you with a *liberal compliment* upon every case you send to me.—I am, sir,

"Your's faithfully,

"——."

No doubt this neatly-written circular has been sent to many of our readers. We do not publish the name of the writer, but we shall merely observe, that with every respectable member of the profession the letter will doubtless have the effect of inducing them to advise their patients who may be in want of a dentist, to avoid a man who thinks that he can succeed in practice by such a disreputable system of bribery.

WE invite the attention of our readers to the correspondence elsewhere inserted* in reference to the action recently brought by Mr. Cox, of Birmingham, against the Midland Railway Company. It has been observed, that a Railway Company has no conscience, and we think the result of this action is likely to prove that, so far as the Midland Company is concerned, the observation is strictly true. The innkeeper has not been paid,—the surgeons have not been paid; and the defendants, having a judgment in their favour on a point of law, have now made an application to Mr. Cox for *their costs* in the action, although the judge who tried the case expressed a strong opinion that the plaintiff was entitled to his fee; and the question of law was so doubtful that it was actually reserved by him for the decision of a superior Court. Mr. Cox has, we consider, received a full amount of law, but no justice. He was required to go some distance during the night to perform a serious operation rendered necessary by a railway accident. As far as he knew, and in accordance with the view taken by MR. JUSTICE MAULE, he was duly authorised by the servants of the Company to undertake the treatment of the case. He is put to expensive litigation, and with the opinion of one judge in his favour, is told that the law is against him. He is thus made to furnish a precedent, and, equitably speaking, a very bad precedent, in reference to the non-liability of Railway Companies for surgical expenses. His professional services, which saved the man's life, are thus given gratuitously; he must pay his own costs incurred by this expensive and fruitless litigation; and the Company, probably with a stern look to the augmentation of their dividends, are not satisfied with thus taxing Mr. Cox, but now insist upon having their costs paid!

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* Page 348.

An eminent writer on law says:—"We are not perhaps sensible of the existence of a particular rule *until we have infringed it* intentionally or unintentionally, in the eager pursuit of our own interests. But then that rule makes itself felt in its potency; and however irritated and galled, we must submit, inveighing loudly, it may be, against those whose business it is to enforce the rule, and the paltry nature of that which has been trangressed,—unable or indisposed all the while to trace it to the principle on which it is founded, and which may be one lying at the very foundation of the fabric of civil society."* In fully assenting to the proposition, that we should always bear patiently private hardship for public good, the rule leaves such a case as that of Mr. Cox untouched. The learned judges who tried the case, took the same view as the plaintiff of the responsibility of the Company. There was therefore no fixed rule which the plaintiff had infringed; and to make him the victim of a new rule, by compelling him to go without remuneration for his medical services, and to pay costs on both sides, is in our judgment contrary to all notions of justice.

It would be only fair to travellers that every Railway Company which intends to act upon this decision, should adopt the suggestion thrown out at the time by MR. JUSTICE MAULE, and put up at each station a notice in extra-sized capitals, to the effect that—"*No medical assistance would be rendered on this line in case of accidents.*" With respect to medical men, we have only to observe, that their services must in future either be gratuitously rendered, or paid for by those who have sustained accidents. We do not desire to speculate upon the manner in which third-class passengers are likely to be treated in such a state of the law. This is another unjust demand on the charitable and humane feelings of the profession.

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* Warren on the Moral, Social, and Professional Duties of Attornies and Solicitors, p. 31.

THREE LECTURES ON CHOLERA,

Delivered to the Students at St. George's Hospital, February 1832.

By Wm. Frederic Chambers, M.D.
K.C.H., F.R.S.,
Physician to the Queen and Queen Dowager.

Lecture III.

Question of contagion—sources of information—propositions involved in the popular view of the subject. 1. *That the disease was a new one.* 2. *That it was new as an epidemic—both questions discussed.—Mortality exaggerated—right way of estimating it—Conclusion.*

We are now arrived, gentlemen, at that part of our subject which brings us closely in contact with the great question respecting the contagiousness or non-contagiousness of this malady; but I am sure no one who is at all conversant with such subjects will for a moment suppose that a question so loaded and perplexed already by controversy, can be settled here within the limits which we are obliged to assign to it in the present lecture.

All that it is my wish to do at this time (aware as I am that almost all the phenomena of the progress of this disease may be very plausibly explained upon either hypothesis) is to offer you a few reasons, founded on the broadest and most prominent features which the subject presents, for adopting that opinion myself, which is obviously, in this country at least, the opinion of the minority of the profession,* although almost universally maintained by those who have been most largely conversant with the disease in the East. In truth, I will here venture to say of myself, that I owe it to the office I hold under the East India Company, that I have been in some sense familiar with this malady, from the year 1814 to the present time, during which period I have held the situation I have just alluded to—one of the duties of which calls on me to examine the medical journals of every ship that sails in the Company's service, and to see and converse with every surgeon and assistant-surgeon who is appointed to take medical charge of any of them. So that, in fact, long before the disease which we are now considering became the subject either of controversy or panic, I was called upon to make up my mind as to its character and habitudes, and more than once to report my opinion on its causes and mode of propagation. Having, therefore, arrived at what I conceived a disinterested and unbiassed opinion that the disease was exclusively of atmospheric or endemic origin, and held no affinity to the class of infectious maladies, it cannot be a matter of surprise that I should now look with considerably jealousy at those alleged facts which have induced so many, even of the wisest amongst us, to adopt and maintain the opposite opinion.

The sketch which has been offered you of the origin and progress of epidemic cholera, which in fact forms the basis of the popular creed on the subject, involves in it the following propositions:—

1st. That the disease was unknown in Europe, until it commenced its ravages in Russia in the year 1830.

2nd. That it was new altogether, at least as a prevailing or epidemic disease in any country, even in India, until the month of August, 1817.

That from the year 1817 to the year 1832, it has been occupied in traversing a great part of Asia and Europe, and successively ravaging country after country, and town after town, each of which before its arrival was quite as unacquainted with the malady as we are alleged to have been in this metropolis before the 11th of February, 1832.

Now I trust I shall not be considered presumptuous in saying that I feel great scepticism as to the soundness of every one of these propositions.

With respect to the first of these—viz. that the disease was unknown in Europe until the year 1830—I think the descriptions which I have quoted from Hippocrates, Celsus, Aretæus, and Aurelian; from Soranus, Trallian, and Ægineta; from Sydenham, from Jallman, from Morton, and, I may add, from Armstrong and Hennen, must be sufficient to convince all those whose opinions have not on other grounds been too firmly rooted to be now assailable by any arguments. The authorities I have mentioned, particularly the descriptions of Morton, are, I confess, conclusive on the subject to my own mind; and I doubt not that if I had had more time and leisure for the search than I have been able to command since I commenced the investigation of the subject, I could have added very largely to the authorities which bear on this point.

The next proposition in order from which I feel obliged to dissent, is that the disease was new altogether, or, if not entirely new, that it was not known as an epidemic in any country, even in India, until the month of August, 1817.

To refute this assertion I need not seek my proofs from a distance, as they may at once be found in the first few pages of the Madras Report, which is in fact one of the great authorities referred to by the contagionists for materials to corroborate their notions of the novelty and progression of this pestilence.

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* In Feb. 1832.

In truth, the proofs afforded us here in support of our position are so numerous that I scarcely know how to select or condense them, so as to suit the limits in which I must comprise them.

The Dutch physician, Bontius, in 1629, describes the vomiting and purging, &c., and concludes his description with these words :— By such excessive purgations the animal spirits are exhausted, and the heart, the fountain of heat and life, is overwhelmed with putrid effluvia. Those who are seized with this disorder generally die, and that so quickly as in the space of twenty-four hours at most; and he then gives the case of Cornelius Van Royen, who being in perfect health at six in the evening, expired in terrible convulsions and agony before twelve at night.*

Dr. Paisley, in 1774, writes (it does not appear to whom) in these words :—" I am happy to hear you have caused the army to change its ground, for there can be no doubt that their situation contributes to the frequency and violence of the attacks of the disease, which, as you have observed, is true cholera morbus, the same as they had at Trincomalee.†

There is abundant evidence of the disease having occurred in the Mauritius in 1775, as well as in 1819. The former as well as the latter date corresponds with that of the prevalence of the same epidemic on the continent of India.

At Ganjam it raged in April 1781; and whereas, in 1817, the people of Ganjam declared it was brought or sent to them from Calcutta, it appears that in 1781 the people of the latter place declared that it came to them from Ganjam,—one accusation being as well founded probably as the other. In the next year Curtis describes it as raging at Trincomalee, in Ceylon, and affecting extensively Sir Edward Hughes's squadron, which was cruising in those seas at that period. The symptoms are described so completely as to leave no doubt of the character of the disease.

Dr. Davis mentions it as prevailing at Arcot in November 1787; but he adds, which singularly identifies the disease with the present epidemic, that there were three varieties of disease in the hospital, viz. cholera morbus, inflammatory fever with cramps, and a spasmodic affection of the nervous system distinct from cholera; he adds, however, that the last disease was more fatal than the other two, destroying all that were attacked by it. If we add to this that it raged in Arcot and Vellore up to 1814, we shall have said enough to prove, in the language of Mr. Scott, that the reports from Travancore prove the existence of the disease considerably ulterior (anterior?) to 1787, and that the disease was at no time of rare occurrence in that country. But this is not sufficient, for it is urged that although not unknown before 1817, yet that it had never been epidemic before, and was not known or reported to have ravaged whole districts, and proved fatal on a large scale, until that period. A very few words will suffice to clear up this matter. Dr. Paisley, writing at Madras in 1774, speaks of the disease as being *often epidemic* at Madras,* from 1769 to 1774; and Sonnerat mentions it as an *epidemic* disorder *that reigned* along the Coromandel coast from 1774 to 1781: a disorder (described exactly as the present epidemic) which destroyed 60,000 people in the neighbourhood of Pondicherry. It will suffice to mention two more instances in which it attacked large bodies of persons long before what is held to be an unprecedented instance of its destructive power occurred in the case of Lord Harding's army in 1817. At Hurdwar an immense concourse of pilgrims were assembled by a religious ceremony, in the year 1783. " It is the custom, Mr. Jamieson says, of the pilgrims to repair to the bed of the river, where they pass the night, crowded together, and unsheltered; the temperature is very variable, the days being hot, and the nights cold, with heavy dews, and sudden chilly blasts from the mountains.† On this occasion the cholera broke out amongst them, and in eight days is said to have cut off above twenty thousand victims." Of Colonel Pearse's‡ division of troops marching through the northern Circars in 1781, consisting of 5,000 at least, 700 were carried off in eight or nine days.

Many other instances of the epidemic quality of the disease in earlier times may be found in the Madras report. I have, however, I trust, now said enough to show that the disorder was known not only as an epidemic, but one capable of producing the most dreadful mortality amongst large bodies of congregated individuals, long before the period now fixed on by the contagionists as that of its birth and gradual progress through the country.

From these concessions, if I may so call them, I think I am not unreasonable in concluding that, if in these earlier times the same system of organization had prevailed in the medical service as is now happily established in it, it would not have been then more difficult to find the disease prevalent at short intervals in all parts of India, than it is now known to be, and on which circumstance it is that the fanciful notion of its travelling from place to place along the public roads and rivers exclusively has been founded.

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* Madras Report, p. 4.
† Madras Report, pp. 8, 9

* Madras Report.
† Bengal Report, p. xviii.
‡ Idem, p. xx.

And to show that it is not a gratuitous assumption on my part, I will take the liberty of quoting here an observation of Mr. Scott (who may certainly be taken as an impartial witness in this case) on a paper of Mr. Cruikshanks respecting the cholera of 1811, which I shall refer to more at length for another purpose by and by: it is to the following effect:—"This paper by Mr. C. is of great importance, inasmuch as it evinces that cholera did then exist to an extent not hitherto suspected, and yet that no trace of it is found in the public records; for, unless we had been guided by an incidental remark by Mr. Duncan made five years afterwards, and had been most fortunately able to refer to Mr. Cruikshanks (the surgeon of the corps at the time), the medical returns of the corps never could have led to a knowledge of it."* Hence, as already observed, though cholera very rarely appears in the sick returns of former times, it is by no means to be thence inferred that it did not then exist.

I think, then, it cannot be denied that cholera spasmodica—I mean the very disease which we are now discussing—was as well known before 1817 in India, except from the want of proper and regular returns on the subject, as it has ever been at a subsequent period, —at least, that it was as often epidemic and as extensively fatal at intervals then as now.

This brings us to the consideration of the third proposition, of the soundness of which I said I entertained much doubt—namely, that it commenced its travels from Bengal in the year 1817, and has regularly traversed a great part of Asia and Europe at a steady pace, ravaging country after country, and town after town, which, before its arrival at either of them, were quite as unacquainted with the malady as we are alleged to have been in this metropolis before the 11th of February, 1832.

I will not here dwell on the extraordinary inconsistencies presented by the supposition of its having commenced at Jessore, and been propagated from thence gradually to other parts, when the very accounts which state the fact of its breaking out at Jessore on the 28th of August, 1817, allow in distinct terms that it was ravaging the city of Patna and the contiguous station of Dinapore (400 miles from Jessore) in the preceding month of July, and had been raging in some parts of Nuddea even so early as the previous May. In truth, the Report from Bengal* teems with inconsistencies of this kind, in which the Madras Report is by no means deficient. The authors of both, however, having once hastily adopted the notion that the malady was progressive, instead of being always more or less prevalent in various seasons in almost every district, and could therefore be found almost in any place in which it was sought, shut their eyes to such gross and manifest incongruities as the following. For instance, it is deemed necessary, for the purpose of supporting the argument which might establish the communication of cholera by successive stages from Ganjam to Ceylon, that it should reach Jaulnah for the first time on the 1st of July, 1818, which date is appended to this place in the map, as the day of its arrival†; yet it turns out that Mr. John Wylie not only mentions the disease as having been formerly present there, in a letter dated the 20th of July, but it also appears, from Mr. Scott's own account, that it had prevailed there, though not in a very virulent form, yet with every characteristic of the genuine disease, in the month of June, 1814.

So also, with respect to Travancore, it was necessary, for the purposes of the contagionist and believer in the progressive communication of the disease, that it should be held to have arrived at Travancore and Palimcotta in January 1819; and this is the date appended to the names of these places in the map of the Madras Medical Board; but how stands the fact as to this point? Mr Staff-surgeon Hay, the medical officer stationed at Travancore, shall answer this question for us. He writes on the 19th November, 1818, having just received a supply of medicines from the Presidency, thus:—"The spasmodic cholera, I am happy to say, abates, the last seven days having afforded only thirty-six cases (at Quilon), and only one casualty;" but he says the Vythians (natives of a neighbouring district) report the deaths of almost all attacked. He adds (and this is the most extraordinary part of the history), "I trust to be able to make a noble stand against the *epidemic* when it arrives; what I have had to encounter recently I hold to be the endemic, if not of the Malabars, certainly of the Travancorians, which is *perfectly familiar to all of us.*" He then tells his correspondent that it frequently did great mischief; and that twenty-five years before it had "desolated the country, destroying thousands,"‡ and proving fatal to all who had not early medical succour, and that the description of this disease exactly tallied with that of spasmodic cholera, the disease he was looking out for: that is, having always with him and before him the disease, which his experience had taught him was, in fact, local, endemic, and atmospheric, he was not satisfied with this, but must be anxiously looking out for another precisely similar to it in all its features, which should be epidemic, contagious, and itinerant. It may be remarked also here, to shew the effects of the delusion under which all parties who entertained these notions of the progress of the malady laboured at the time, that Mr. Scott, instead of endeavouring to clear up or palliate this extraordinary incongruity between Mr. Hay's experience and his expectations, instead of attempting to shew that the endemic and epidemic were essentially different diseases, asserts, with the greatest simplicity, in the very next paragraph, that there could be no doubt that the endemic was, in fact, the epidemic of other parts. Such are the improbabilities with which the narrative of the travels of this pestilence abounds whenever the facts are stated candidly and sufficiently in detail to enable us to examine them closely, and to sift them thoroughly. This advantage, however, is not afforded us as to its alleged progress through Persia and Russia, unless the extraordinary hesitations evinced in its progress, its alleged marchings and countermarchings, its acknowledged omissions and retrogressions, may serve the purpose of throwing a shade of doubt and suspicion on the accuracy of the route which has been traced for it. It was said, indeed, to be delayed or interrupted in its course at Orenburg and Teffiis, in Georgia, from 1822 till 1830, by the approach of the winter; but surely this will not account for its arriving at Canton by sea from Manilla in 1820, and leaving the places at the mouth of the river on which it is built—Macao, for instance—unvisited until 1823; and is, besides, inconsistent with the well-known fact that it has paid no respect to the winter at Moscow and other places of a higher latitude.

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* Madras Report, p. xv.

* Bengal Report, p. 5.

† Madras Report, p. xiv.

‡ Madras Report, p. xvi.

With regard to St. Petersburgh, I would mention a fact which is sufficiently corroborative of those to which I have before referred when speaking of the progress of the disease in India—namely, that, although it is asserted by those who implicitly hold the doctrine of the contagiousness and progression of the malady, that it was brought directly up the Volga as a new disease in the summer of 1831, yet, according to Dr. Lefevre, it was absolutely in the environs of the city in the preceding autumn (October, 1830),—as soon, in truth, if not sooner, than it commenced its ravages at Moscow.

Our time will not allow us to trace the supposed progress of this disease step by step from Moscow to London, through Hamburgh, Sunderland, and Newcastle. I must now be allowed to advert briefly to a few of the most remarkable circumstances relating to the malady, which have not yet been questioned, but which, if it be possible to notice them, ought not to be passed over on the present occasion.

I am aware that it may be said that the fact of the disease almost exclusively being traceable along rivers and roads, itself affords a strong presumption of its communicableness, or, at any rate, of the progression of the morbific virus in the manner described, whether that virus be an exhalation from human creatures, or entirely an atmospheric influence; to this it may fairly be answered, that if in the first place it be an agent at all analogous to febrific miasma, there can be no difficulty in understanding why the damp and marshy margins of rivers should particularly abound in it; but besides this, it must be recollected that man, the object of its attack, is for the most part to be found in these very situations, and that those who are occupied in investigating and searching out the disease, are not likely to be found very far from these great channels of communication between place to place.

Having been hitherto almost exclusively occupied in expressing my doubts of the soundness of those opinions respecting this malady, which have been lately most popular with others, I may be fairly asked what are my own impressions as to its actual exciting cause and mode of propagation, and what the grounds on which I have been induced to adopt them. I hold, then, that this is entirely an endemic or atmospheric disease, visiting in a certain cycle all known and habitable countries, sometimes with more intensity, and sometimes with less. How, then, it will be asked, has it happened that we have no records of its occurrence before the present time, in the towns which it has so lately ravaged? I answer, that as to the diseases of the humbler population of such cities as Riga, Moscow, and Dantzic, and much less of obscurer and more distant places, it is not likely that we should have much knowledge respecting them, except under very extraordinary circumstances: nor should we now have been conversant with them but for the excessive panic of the present era; on the other hand, I have already shown, that wherever proper records of prevalent epidemics have been preserved, there are sufficient evidences of the former occurrence and fatality of the disease in question. The towns of Sunderland and Newcastle, with their suburbs, are notorious for the recurrence, at intervals, of the lowest and most frightful diseases;* as to Musselburgh and Haddington, I can say no more than that I know of no records of the maladies prevalent there, but that it is undoubted that not many years have passed since the whole district which surrounds them was considered the very hot bed and nursery of the most aggravated forms of intermittent and remittent fever, with which indeed I have already shown that the severest varieties of cholera, from the time of Celsus to that of Morton, have been considered to hold a close alliance. I believe it to be absolutely not contagious under any circumstances whatever, not only because my impression is that all analogous diseases are miasmatic, and not communicable from man to man, but because also the disease has not been proved to spread to any extent among the medical attendants and nurses of patients attacked by it. I am aware that it has been said that 19 physicians perished from it during the presence of the epidemic in St. Petersburgh; but I have never been able to make out on what information this supposed fact was officially reported to the Board of Health. I am satisfied it is without foundation, not only because Dr. Lefevre and others, who were on the spot, do not credit it, but because it entirely militates against all our experience of the disease, not only in most great towns on the continent, but in every part of India, throughout which there were scarcely any deaths at all amongst medical men, in the north of England and Scotland, and I may now add in London. It is true, indeed, that a celebrated physician of Berlin, Dr. Becher, who had been actively engaged in attending those who were suffering from the pestilence, and investigating its habitudes with great diligence, was destroyed, and buried as one of the unfortunate victims of the contagion of this disease, according to an eminent reviewer, who celebrated his obsequies by pronouncing a funerable panegyric over his grave. I am happy, however, to say, that to the sincere satisfaction and joy of his friends, of whom no one has a larger circle, he has been resuscitated, and he is now perfectly re-established in health and vigour.

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* Vide Dr. Armstrong on Congestive Typhus, and Mr. Lynn, who says a larger mortality took place in 1829 from a similar disease.

The assertion that because the disease as it occurs in Europe and in Asia, in Sunderland and in St. Petersburgh, presents features of great similarity, that therefore it must have been transmitted from individual to individual, and that from one extremity of the habitable world to the other, is about as conclusive on the point under discussion, as if it were asserted that because the intermittents of Asia and Europe are essentially similar, that when they happen to be prevalent in the former they must have necessarily been derived from the latter.* No one has, I believe, as yet, hazarded such an opinion as this: why then should we be disposed, when we are familiar with and know we are surrounded by agents both on the earth and on the atmosphere capable of producing the most virulent diseases on the largest scale, why should we be so ready and anxious to overlook the simple, obvious, and what appears to me the most palpable sources of such evils, and prefer that which, under the mask of simplicity, will be found to involve difficulties of the most perplexing character? But here, then, it will be asked, if you believe this to be an endemic or indigenous disease of all the countries in which it has raged, as intermittents and remittents are, how is it that the mortality has been so enormous, and as far as this country is concerned, so unprecedented? Now the fact is, although it is true that the general mortality of the disease as compared with the number of those affected by it, appears to be considerable, varying between one-third to about one-half of those saved (the former in the north of England), yet the absolute numbers as compared with the population of any country or district has been by no means large; and it is a matter of doubt whether the whole mortality produced by the disease has been such as to cause the deaths in any district much, if at all, to exceed in number the average of former years. We hear people talk, indeed, every day of hundreds of thousands of individuals perishing from this pestilence in this place and in that; but I confess such discourse conveys no distinct notions to my mind respecting the true extent of the evil. If we wish to appreciate the havock rightly, we must refer to the ratio which I just now mentioned; I mean the ratio between the number of deaths and the population of each place.

As to the remark to which I before alluded, I mean that which refers to the enormous proportion which subsists between the fatal cases and the whole number said to be attacked by the disease, that also, if we adopt the pathology of the disease which I have been endeavouring to establish, may be brought within very moderate and consolatory limits. I need not inform you, gentlemen, that the nomenclature of diseases does not bear the same precise relation to the thing denominated as in botany or zoology. It is infinitely more vague as well as more arbitrary. So, as to this disease, we suppose, in fact we have, I trust, by this time none of us any doubt, that the series or congeries of symptoms to which we give the name of cholera, is in truth nothing more than the aggravated effect of the same febrific miasm or atmospheric agent upon a recipient incapable of coping with or reacting against it, which, when evolved from the earth or the atmosphere in a more dilute or less active state, or impinging on an individual possessing greater vital elasticity and reactive power, would produce an attack of remittent or typhoid fever (which, in fact, it is notorious for the most part is prevalent at about the same time with this horrible disease). To appreciate the mortality fairly, then, and in the mode generally adopted as to other diseases, we ought to count together all those who are seized with cholera, and those who are attacked contemporaneously by fever, and reckon the mortality on the sum of both, instead of the former exclusively.

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* Utumque sive loci positione sive constitution aeris ab Angliâ longissime discrepet Thasos, inter febres ab illo (Sydenham scil) el ab Hippocrate, adumbratas minimum intersit discriminis. Etenim gradu potius quam genere dissimiles esse videntur. (Freind. Comment. de Febribus.)

The last question or objection which I shall notice may be thus stated:—Allowing your pathology of the disease to be correct, and its mortality not excessive, are you prepared to assert that you have often seen cases of fever or cholera, or whatever else you may be pleased to call it, dying within sixteen, eighteen, or twenty-four hours, as the three cases did which you yourself saw dying or dead in the Cholera Hospital, and of which most respectable practitioners in the north must have seen so many instances?*

That such cases, in truth, have often occurred before in all parts of Europe is evident from the accounts of English and foreign physicians which are still extant, and to which I have so often referred; but I will ask in return, whether it is at all likely that Dr. Headlam of Newcastle, or Dr. Clanny of Shields, or in fact any respectable practitioner, would have seen one half, nay, one-tenth, of the cases, to the existence of which they can now personally testify, if it had not been for the panic which has been current respecting cholera. I will say, also, for myself, in the first place, that if cases which I was called on to treat last summer and autumn, instead of having every comfort around them had been attacked with the disorder in the alleys and cellars of Southwark or St. Giles's, they would have as certainly died in a few hours, one of them probably in less than six, as any of the cases which have been officially reported within the last few days as instances of the new pestilence; nay, more—I would ask, if it had not been for the panic now prevalent on the subject, which attracted us to the spot, would there have been the least chance that I, or any of those now present, would have seen, or heard, or dreamt of the existence of either of the three frightful instances of disease which we saw dying or dead on Tuesday, in the Pest-house in St. George's Fields?

Gentlemen, I must here conclude my observations on this interesting subject. As to the great controverted question of the non-contagiousness of cholera, I have really had no wish or intention of endeavouring to convert those who have taken up and fortified themselves in the opposite position. With them, my chief object has been to show that in believing, myself, the disease to be a simple endemic, I have not been led away by a mere absurd and pardoxical phantasy.

To those, again, who have not yet formed their opinion on this subject, I may, I trust, flatter myself I have afforded some materials for thought which will at any rate not tend to increase the perplexities of the question; whilst to the non-contagionist I have endeavoured to supply (however desultory my observations may have been) some at least of the reasons which have led me to my present conviction, and which (as I believe that impression to be the correct one) will, I trust, confirm him in the opinion which he holds.

For the rest, I will only say, that whatever may be the fact as to its exciting cause, I feel assured that in the view I have taken of the habitudes of the disease, even in the most formidable aspect with which it has presented itself in this country, I mean that which it has put on in Newcastle and Gateshead, there is nothing which is calculated to excite, in a rational und well-regulated mind, any overwhelming apprehension. Its virulence and fatality, even in those close and crowded seaports, is absolutely inconsiderable when compared with the ravages which many other diseases have shown themselves capable of inflicting. How little, then, have *we* to apprehend in this cleanly and wholesome metropolis! We have only to make a proper use of the advantages (intellectual as well as physical) with which a beneficent Providence has so abundantly enriched us, and we shall have nothing to fear as to the result. We may, *indeed*, depend on riding safely through the storm, however dark and heavy may be the clouds which are gathering around us.

Reviews.

Portraits of Diseases of the Skin. By Erasmus Wilson, F.R.S. Fasc. IV. London: Churchill. 1849.

This Part contains illustrations of *Lichen Syphiliticum, Lichen Syphiliticum Tuberculatum, Roseola Syphilitica,* and *Lichen Simplex.* An account of each of the cases from which the drawings were made is attached. It is quite equal to the others which have appeared, and is creditable to artist, editor, and publisher.

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* The disease had on the previous day first been seen in the metropolis, and its presence publicly announced in the lecture-room.

Chemical Manipulation and Analysis: Qualitative and Quantitative. By H. M. Noad, Lecturer on Chemistry at St. George's Hospital. 8vo. pp. 311. London: Baldwin. 1848.

The industry and research displayed in the preparation of this volume are highly creditable to Mr. Noad. It consists essentially in a republication, but in a greatly improved and extended form, of the Treatises on Chemistry, published many years since, as part of the series of the Library of Useful Knowledge. The author has not aimed at bringing out a treatise on chemistry, but has chiefly confined himself to concise descriptions of those portions of the subject which refer to chemical manipulation and analysis. The first part refers to qualitative, and the second to quantitative, analysis. In the former we have an account of the action of tests and their use in the analysis of salts, mineral waters, and poisons; in the latter, besides the method for determining the weights for the constituents of compounds, we have chapters on the Elementary Analysis of Organic substances,—the analysis of soils, of the ashes of plants, and of urine and urinary calculi. In a work of this nature, we do not look for much originality, but we may remark that Mr. Noad has made his selections with care, and under due acknowledgment. His style is clear and intelligible. The book is published at a cheap rate; and from the closeness of the type it contains a large amount of matter in a small compass. It will be found a useful compendium to those who are about to commence the study of practical chemistry, and as such we can recommend it to medical students.

Medical Chemistry for the use of students and the profession; being a Manual of the Science, with its applications to Toxicology, Physiology, Therapeutics, Hygiene, &c. By D. P. Gardner, M.D., formerly Professor of Chemistry in the Philadelphia College, &c. 8vo. pp. 396. Philadelphia: Lea and Blanchard. 1848.

The title of this volume will be sufficient to convey an idea of its contents. It may be regarded as a popular compendium of medical chemistry. We know of no work exactly like it by any English author. It is well adapted to instruct the student in the medical applications of chemistry, and to give to the practitioner a knowledge of the discoveries which have been recently made in the physiological department of the science. The Americans have of late acquired such an uncomfortable reputation for reprinting the works of English writers, and ingeniously constructing compendiums from well-known English manuals and treatises, that we are always fearful, in commending a book of this kind, that we may be bestowing praise in the wrong quarter. Dr. Gardner, however, relieves us of a little of this difficulty, by admitting in his preface that "he does not lay claim to originality." In looking through his pages, we fancied that we stumbled occasionally on passages derived from English chemical and physiological works: we must own, however, that, on the whole, he has succeeded in producing a useful compilation, and the reader will find here, in a concise form, information for which he would otherwise have to seek in many elaborate and expensive treatises.

In speaking of the detection of sulphuric acid in cases of poisoning, Dr. Gardner advises "scraping off the disorganized tissues, distilling with a little water, and testing the distillate with chloride of barytes," &c. (p. 190.)

The term chloride of *barytes* may be a misprint, but how are we to explain that a Professor of Chemistry should seriously advise a means of separating sulphuric acid which in practice would surely fail? In the previous page we are told that this acid boils at 620°: if so, how can any portion of it be obtained for testing, when mixed with water, and distilled at or below 212°? This is the only error of any importance which we have found in Dr. Gardner's compendium.

A Treatise on the Diseases of the Heart and Great Vessels. By J. Hope, M.D. F.R.S. Fourth Edition. London: Churchill. 1848.

It is an unusual tribute to the merit of any modern medical work, that it should be republished some years after the death of the author. With the exception of Dr. Latham's Clinical Lectures, no work on diseases of the heart has been published during the ten years that have elapsed since the appearance of the third edition of Dr. Hope's work. We are therefore glad to find that this valuable treatise is again accessible to the student and medical practitioner, in a compact and cheap form. We are compelled, however, to express our disappointment in finding that this edition is little more than a reprint of the former one; that the few additions made by Dr. Hope are not indicated; and that the editor of the volume has not inserted a single note indicating or detailing the numerous researches into diseases of the heart which have been made during the last ten years.

Dissertation on Scientific Nomenclature, Medical and General, &c.; with suggestions for its improvement. By R. G. Mayne, M.D., Surgeon to the Leeds Lock Hospital. 8vo. pp. 82. London: Churchill. 1849.

This essay is a republication of a series of papers on the subject of nomenclature, which appeared about two years since in the Lancet. Dr. Mayne abundantly proves that there is a violation of etymology in a large number of the medical terms which are of frequent use in professional works, and in ordinary conversation. As a result of this confusion, words are often employed which have a wrong meaning. It is, perhaps, more easy to point out the evil than to suggest a remedy. The author, however, is not discouraged from making an attempt to effect changes in nomenclature really based on true etymological principles, and he informs us that he is now engaged in preparing an expository lexicon of the terms used in medical and general science.

Some words in common use have entirely lost their original meaning, e. g. *oxygen*, which is no longer appropriate, when we have alkalies constituted of oxygen, and acids of hydrogen. We doubt, however, the expediency of making changes which would inevitably lead to greater confusion than now exists. Dr. Mayne's object, as we understand it, in suggesting a new nomenclature, is to give to each word a fixed and definite meaning, and should he succeed in accomplishing this, he will deserve well of the profession. The pamphlet displays throughout much learning and research: but in a dissertation on an erudite subject of this kind, we are surprised to find such a slip of grammar as in the following clause of a sentence, at p. 78—"which of the two modes is the most (more?) proper." It is impossible to pronounce a fair judgment on this fragmentary essay. We shall be in a better position to form an opinion of the author's new system when his Lexicon is published

Humboldt's Cosmos. Translated, with the Author's sanction and co-operation, under the superintendence of Lieut.-Col. Sabine, For. Sec. R.S., &c. In 2 vols., pp. 357, 359. Longmans, and Murray. 1849.

By the publication of this edition of Cosmos, the only obstacle to its most extensive diffusion among all lovers of science has been removed. The two volumes hitherto published at twenty-four shillings, are now to be had in a compact form for five shillings; and it would, we think, be impossible, even in this age of cheap literature, to name a cheaper book than Humboldt's Cosmos. We have compared this edition with the volumes already reviewed in our pages,* and find that the text and notes are strictly preserved. Our opinion of this work has been already fully expressed in previous notices; and we shall merely add that this is the only English translation which is recognized as authentic by the distinguished author. We commend it to the notice of all our readers, as a most desirable addition to a medical library.

The National Cyclopædia of Useful Knowledge. Part XXIV. London: Knight.

This Cyclopædia includes medical and scientific articles, as well as others referring to history, politics, geography, biography, &c. The medical articles, *e. g.* gun-shot wounds, are, of course, very short, and are of a popular character. The information on general subjects is good and copious, and the work is wonderfully cheap.

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* See Vol. xxxviii. page 971; Vol. xxxix. page 1121; and Vol. xli. page 997.

Proceedings of Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

February 13, 1849.

J. M. Arnott, Esq., F.R.S., President.

Case of Exfoliation of the Anterior Arch of the Atlas. By Robert Wade, Surgeon to the Westminster General Dispensary.

The subject of this affection (aged 35) first came under the author's notice at the Westminster Dispensary, in October, 1845. He then had a large sloughy ulcer occupying the back of the pharynx, at the centre of which dead bone could be felt with a probe. He had previously suffered from extensive exfoliation of the upper jaw, and lost one of the spongy bones. Twelve years had elapsed since he had primary venereal disease, for which he was salivated, and was again subjected to the influence of mercury, by fumigations, for ulcerated sore throat. A course of iodide of potassium and sarsaparilla re-established his health for a time, but his throat again became sore two years afterwards. The same treatment was resorted to repeatedly, with varying success. Latterly, he had suffered from pain in the neck, and from attacks of muscular rigidity in the same part. In one of these spasmodic attacks he had been alarmed by feeling something give way in the back of his neck, "with a loud crack, like the report of a pistol." On looking into the mouth, some coagulated blood was seen adhering to the ulcer. After this, the spasmodic attacks became less frequent and severe; and at the expiration of five months the author observed a small portion of bone projecting into the pharynx, and, with very little difficulty, removed the greater part of the anterior arch of the atlas, with the entire articulating surface of the odontoid process of the axis. Caution was enjoined for a time, and the patient was enabled to resume his usual occupations in three months; the throat, however, has continued, from time to time, to be subject to attacks of ulceration. The power of rotating the head is now nearly perfect, but he has a catching pain at the back of the neck when he attempts to bend his head forwards.

Mr. Prescott Hewett brought forward two preparations, which had reference to the paper which had just been read. These preparations were presented to the pathological museum of St. George's Hospital, in 1835, by Mr. Keate, who removed them, in 1810, from a man who had been affected with syphilis, and had taken large quantities of mercury. One of these preparations was a large exfoliation from the anterior part of the atlas, on which might be detected a small portion of the articulating surface for the odontoid process. This portion was perfectly smooth, and of the size of a split pea; the remainder of the bone was rough, and consisted only of about two-thirds of the thickness of the anterior arch of this vertebra: it measured an inch in length. The other preparation, which was taken from the same patient, consisted of an extensive exfoliation from the basilar surface of the occipital, including the luxated edge of that bone. After the removal of these pieces of bone, as well as exfoliations from other parts, the patient recovered his former health and strength. The details of this case were published by Mr. Keate in the Medical Gazette for 1835.

Mr. Wade replied, in answer to a question from the president, that his patient retained, unimpaired, the power of rotating the head, but that it could only be bent forward to a very slight extent,—not more than an inch. With regard to the case mentioned by Mr. Hewett as having occurred at St. George's Hospital in 1810, although in some respects resembling his own, there was this important difference, that in Mr. Hewett's there had been exfoliation of a part only of the anterior arch of the atlas, with but a portion of the articulating surface for the odontoid process; so that, in fact, some degree of bony support had still remained in front of that process. Mr. Wade believed that the case brought by him before the Society was the only one recorded in which exfoliation of the whole of the anterior arch of the atlas, with the entire articulating surface for the odontoid process of the axis, had occurred; affording a satisfactory proof that the transverse ligament has sufficient strength to retain that process in its place.

Pathological Researches into the Diseases of the Ear. By Joseph Toynbee, F.R.S., Fellow of the Royal College of Surgeons in England, and Surgeon to the St. George's and St. James's Dispensary, London.

This paper contains the results of 915 dissections, which are classified as follows:—

Ears of persons known to be deaf - -	184
Ears of persons supposed to be deaf -	70
Ears in the stage of incipient deafness -	358
Ears in a healthy state - - - - -	303
Total - - -	915

After some introductory observations, the author enters upon an examination of the state of each of the structures composing the organ of hearing. The most frequent pathological condition of the membrana tympani consists of a thickening of its internal and middle layers, the deposit in its substance of calcareous matter, its adhesion with or without the presence of membranous bands to the inner wall of the tympanic cavity, and the destruction of more or less of its substance by ulceration. In the tympanic cavity, the diseases most frequently present are, a thickened state of the mucous membrane, membranous bands which connect together the ossicula, deposits of mucous, purulent, scrofulous, and calcareous matter. Anchylosis of the stapes to the fenestra ovalis occurred in twenty-six instances. One of the interesting results of these dissections is the rarity of disease in the Eustachian tube: in the 612 dissections of diseased ears, only twenty-one disclosed traces of disease in that portion of the organ of hearing. The author pointed out the agreement that exists between the diseased condition described, and the history and symptoms of deaf patients during life, and expressed his conviction that when rational plans of treatment, founded upon pathological research, are carried out by intelligent medical men, this branch of surgery will be rescued from the odium which at present justly attaches to it. The author concluded his paper by pointing out the intimate connexion which exists between different parts of the organ of hearing and the brain, its membranes and other important organs.

Mr. Toynbee, at the conclusion of this paper, was questioned by a great number of the fellows on various points connected with disease of the ear. It will not be necessary to give the questions and answers in detail, but the subjoined epitome of the answers will convey the entire meaning of the author of the paper.

1. The treatment of chronic inflammation and thickening of the mucous membrane lining the tympanic cavity consists in the use of leeches, followed by an ointment, composed of a drachm of powdered cantharides to an ounce of simple ointment, or of simple ointment, or of the tincture of iodine, below the ears, and as near to the tube as possible. To the outer half or two-thirds of the external meatus a solution of nitrate of silver is to be applied every third or fourth day; the salt is to be dissolved in water, and its strength may vary from half a drachm to a drachm of the salt to an ounce of water. In some cases the surface of the membrana tympani is to be washed with a weak solution of the nitrate of silver, from four to six grains to an ounce of water. Where the mucous membrane of the fauces is thick or relaxed, astringent applications should be made. Small doses of blue pill, the bichloride of mercury, or mercury with chalk, should be administered, not with the object of producing salivation, or any depression of the system, but to aid the local applications in promoting absorption. Warm bathing, exercise in the open air, the avoidance of wine and stimulants, and of close and warm rooms, should be strictly enjoined. Under this treatment, cases of deafness of many years' standing have been cured or relieved.

2. Catheterism of the Eustachian tube is an operation very rarely called for; in nine cases out of ten, by means of the otoscope,* air is distinctly heard to enter the tympanic cavity, or there are other unequivocal symptoms indicative of the pervious state of this tube;† practical experience with the deaf quite agrees with the result of the dissections of the Eustachian tube.

3. Besides the otoscope, in order to arrive at something like an accurate diagnosis of the nature of ear diseases, it is requisite to use a small lamp and a delicate silver speculum. By means of the two latter instruments the exact state of the meatus and membrana tympani can be ascertained. It will be observed that the latter structure is not unfrequently more concave than natural—a condition which is produced either by direct adhesion of the membrana tympani to the inner wall of the tympanum, or through the agency of membranous bands, or by a contraction of the tensor tympani muscle.

5. The principal disease observed in the fenestra rotunda consists in the presence over it of a distinct false membrane, which is attached to the margins of the fossa fenestræ rotundæ; the latter fossa is often completely filled up by the thickened mucous membrane of the tympanum.

6. Many deaf persons, as in the case of one of the patients in whom there was found to be complete anchylosis of the stapes to the fenestra ovalis, hear musical sounds when sonorous vibrations can be made to act upon the nervous expansion, as through the medium of solids.

7. My experience has not been sufficient to indicate by the kind of deafness the particular part of the ear affected.

8. As a rule, I have not found the fluids of the labyrinth deficient in old persons, but the mucous membrane of the tympanum and the membrana tympani have been the seat of the disease.

9. Some deaf persons hear better in a

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[*] An elastic tube, twenty inches in length, each end being tipped with ebony; one extremity is introduced into the external ear of the patient, the other into that of the surgeon, while the former attempts to make a forcible expiration with closed nostrils.

[†] Although the air is heard to enter the tympanic cavity, it does so with the production of a variety of sounds, as a puffing, bubbling, and cracking, according to the condition of the mucous membrane of the tympanum.

noise, as in a carriage, than when quiet, because the fluid of the vestibule is thrown thereby into a state of undulation, and in this state can receive the vibrations of the thickened membrana of the fenestra rotunda, which are much less powerful than is natural; indeed, supposing the views on the physiology of the tympanum advanced by Mr. Brooke to be correct,—and thus far all my researches tend to establish their accuracy,—in those cases where the stape is so firmly fixed as not to be able to press upon the labyrinthous fluids, and give them a certain state of tensity, the vibration produced by a carriage, or by a loud sound, would in some measure be a compensation.

10. In some deaf persons there is an over-sensibility of the nerves of the ear; and a loud sound, or a loud voice, aggravates the malady by causing a forcible contraction of the muscles of the internal ear, and a rigid state of the membrana tympani.

11. Tinnitus aurium is probably dependent upon the constant compression of the contents of the vestibule, and by the pressure inwards of the stape by means of rigid bands of adhesion, thickened base of the stapes, &c.

12. There are cases where loud reports produce a rupture of the membrana tympani; others, in which the hearing becomes gradually lulled, as in the right ear of sportsmen. I have not been able to dissect any cases tending to elucidate the pathological condition.

There being no other paper before the Society, and the time for adjournment not having arrived, the President said that it was competent for any fellow to introduce a subject for discussion. Accordingly,

Dr. **Webster**, in allusion to the paper and discussion on scarlatina at the last meeting of the Society, said that the treatment of the disease differed materially from that which he had found it necessary to employ in the early part of his career. It was then frequently necessary to resort to antiphlogistic measures; but bleeding could hardly ever be resorted to in the late epidemic. It was necessary, in most cases, to commence support early; tonics, wine, and even brandy, being necessary in some instances. He believed that the late epidemic was the most fatal that had occurred since 1747, in which only one in two recovered. Scarlet fever was by far the most serious disease which had occurred during the last six months.

Dr. **Gregory** did not know whether Dr. Miller's paper contained any allusion to scarlatinal convulsions. He (Dr. Gregory) had only seen two cases of this affection, although he had heard of others. He had never seen this affection treated of at any length in books. He would inquire the experience of members on the subject, and whether it was, like scarlatinal dropsy, frequently met with? What was the nature of it, and did it lead to any particular result? Both of the cases which he had seen occurred in one family. In one case the fever was accompanied by dropsy. Suddenly the child was seized with the most violent convulsions he had ever witnessed, either in old or young. The convulsions had lasted an hour and a quarter before he reached the house. He immediately bled the patient to eighteen or twenty ounces, and the convulsions ceased. The patient gradually recovered. In the second case the same treatment was employed; but the bleeding was badly borne, and the girl died. Mr. Ward, of Bodmin, had lost four out of seven cases, proving that treatment in some cases was attended with success. What had been the result of the last epidemic? Had there been any convulsions co-existent with dropsy? What was the result of such cases?

Dr. **Baly** inquired if in both children there had been dropsy? If so, he should consider that the convulsions were secondary effects, depending on the dropsy, and arising from the presence of urea in the blood. If the convulsions occurred during the eruption, they might have arisen from the poison of the disease.

Dr. **Gregory** said, in one case the convulsions came on the thirty-seventh, and in the other, on the forty-fourth day of the disease. In both cases there was œdema of the legs, and a disposition to general anasarca. He regarded the convulsions, as he did the dropsy, as part of the disease. He did not know the condition of the kidneys.

Dr. **Rogers** had seen two cases of scarlatinal convulsions which came on after the twenty-first day of the disease. The patients both suffered from dropsy with albuminuria. In one case he had resorted to dry cupping over the loins; in the other, at the nape of the neck: both recovered.

Mr. **Gilbert** afterwards exhibited his surgical chair, which has already been noticed. It excited much attention.

MEDICAL SOCIETY OF LONDON.

Monday, January 29, 1849.

Mr. Hancock, President.

Blood Tumor of the Scalp in a new-born child.

Mr. **Newth**, at the former meeting, had related to the Society some particulars of a case of blood tumor of the scalp of an infant. The child was then six weeks old; a few days after birth a small tumor of the scalp was found to exist; it was considered a blood swelling. It gradually increased in size, until it now completely covered one of the parietal bones, part of the other, and part of the occipital. There was no hard rim round the base of the tumor; the skull was entire. The tumor first showed itself at the prominence of the parietal bone. No blow had been given, and there was no apparent cause for the swelling. The treatment had consisted of lotions of the muriate of ammonia, &c. with pressure, but the swelling continued to increase. He had explored it, and found it to contain dark grumous blood; the skin in one part was inclined to give way, and in this place the tumor was lobulated. Mr. Newth stated this evening, that on the morning after the last discussion the tumor gave way, and discharged a very large quantity of bloody serum, coagula, and pus. The child was going on well. Pressure was being applied to the scalp. The wound had the appearance of a common ulcer, and no fungoid growths about its edges. The skull was entire.

Some discussion on this case occurred, for which we cannot find space.

WESTMINSTER MEDICAL SOCIETY.

Saturday, Jan. 27.

J. Webster, M.D., F.R.S., President.

Dr. **Routh** related a case of a child, of three years old, who had been the subject of an ordinary attack of scarlet fever. About the tenth day of the disease the child was seized with slight febrile symptoms, and swelling of the face and upper part of the body. The following day these symptoms disappeared, and a small tumor presented itself over the left iliac fossa. The child had suffered a little before from pain in the abdomen. A tumor subsequently presented itself over the condyle of the left femur. There was little doubt that matter had formed in each of these swellings. He mentioned the case as presenting an unusual sequela of scarlet fever. Pus in the joints, as was well known, was not uncommon, but its formation in the parts he had named he had never before heard of. The child was weak and scrofulous. Should these tumors be opened?

Dr. **Snow** regarded the case as an instance of erysipelas, with a circumscribed formation of matter.

Mr. **Brown**, who agreed in this opinion, deemed it unadvisable to open the swellings. Bark, acetic acid, and generous diet, were indicated.

Mr. **Hancock** and Dr. **Routh** did not think erysipelas had existed. There had been no redness of the skin or pain.

Professor **Murphy** suggested that the pus was the result of a deposit of the morbid poison of the disease; similar deposits were observed in erysipelas, puerperal fever, &c. He regarded the cause as extreme debility. Professor Murphy afterwards related the following

Case of large Uterine Tumor.

A woman applied to me at the hospital, for advice, with whose previous history I was not acquainted. She had a difficulty in passing urine, in consequence of which she was obliged to have it drawn off by a catheter. She complained of a feeling of weight at the lower part of the abdomen, and suffered from pains in her back and loins occasionally. A vaginal examination being made, I found the canal directed completely forward and upwards by a large and firm tumor that occupied the hollow of the sacrum: the urethra curved round the symphysis pubis. The uterus was drawn completely out of reach, so that I could not touch the os uteri. Passing the finger within the rectum, the tumor was there felt distinctly situated between it and the vagina, but so firm and immoveable that I thought it might be one of those examples of osteosarcoma so rarely met with. Some days after, I was hastily summoned by her medical attendant, to see her at her own residence. She had been in the habit of drawing off urine herself by the catheter, but now could not do so. She suffered great distress from retention of urine. I passed a gum-elastic catheter its full distance, but could get no urine. She was ordered a warm bath, and a full opiate was given. In the afternoon no water had passed; and she sank that night. The inspection after death revealed the cause of all this. On opening the abdomen, the walls of which were three inches thick, its cavity was found occupied by a large tumor, which had displaced the intestines, reaching upwards to the umbilicus, and extending laterally to the iliac fossa. The mass of the tumor lay on the left side, and had nearly incorporated the uterus, which, with the right ovary, was seen, after raising the tumor, projecting from its right margin. The bladder was contracted and empty, but the ureters were both compressed by the tumor, and consequently enormously distended and tortuous. The kidneys were enlarged, and in an advanced stage of Bright's disease. The whole mass was then removed, together with the bladder and the upper portion of the vagina. The day following, a more careful examination was made of the tumor, which was found to be fibrous, and engaging the whole posterior wall of the uterus in such a manner that it appeared to be drawn up over the tumor, the fundus occupying the top of the tumor;

the neck stretched for some inches along its anterior surface, and expanded over it. The uterus was, in fact, drawn completely out of the pelvis by the increasing tumor, and was then lengthened out on its surface by its further advance. A section of the tumor was made, which presented the usual characters of fibrous structure; a small portion in the centre was softer and more pliable than the rest of the tissue. The point of interest in this case seems to be the rather unusual position of the tumor, occupying the pelvis so completely as to displace the uterus altogether; it may also prove the importance of pushing such a tumor, if possible, when of less size, out of the pelvis into the abdomen. I do not know whether this could have been done during the progress of its growth; but if it were possible, it might have prolonged this woman's life. I have satisfactory evidence that it is quite possible for a tumor of this kind to grow to an enormous size in the abdomen, without giving rise to dangerous symptoms. I once saw an immense fibrous mass that occupied the whole abdomen; the uterus (as in this case) was drawn up with it as it grew, so that the cervix uteri was prolonged into a narrow canal more than six inches in length: yet this woman lived for years in this way, and ultimately died of disease of the lungs. The woman suffered from symptoms of retention of urine, yet the bladder was contracted and empty. Could this arise from distension of the ureters?

Mr. I. B. **Brown** related the case of a lady who had a tumor in the uterus, from which there was constant hæmorrhage. Nothing had any effect on this. The tumor, which was as large as an egg, and had a very large base, was removed by the scissors, and the patient quite recovered.

Mr. B. **Travers** related a case to show the effects of pressure on the ureters and kidneys, in causing a frequent and urgent desire to micturate. A gentleman suffered from a frequent desire to pass urine. Catheters were occasionally passed, but the disease went on. A small stone passed from the kidneys into the bladder. The stone was broken and removed, and the frequent desire to micturate left him. This desire had not arisen from a distended bladder, but from the irritation produced on the kidney and ureter by the stone.

Mr. **Hancock** related the case of a man who had frequent inability and constant desire to pass urine. Only two tablespoonfuls were removed at a time by the catheter. The man was seized with diarrhœa, which proved fatal. After death, stricture of the urethra on one side was found to exist. The tube above the stricture was distended to the size of the intestine. The cortical substance of the kidney was almost absorbed. The other kidney was affected in a less degree with the same disease.

Mr. **Greenhalgh** detailed some particulars of a case of adhesion of the fundus of the uterus to the rectum, which simulated tumor of the uterus.

Saturday, Feb. 3, 1849.

Cod-liver Oil in Phthisis and Scrofula.

A discussion took place, which had its origin in the fact of Mr. Wing having, at the previous meeting, brought down to the Society two cods' livers, with the view of getting some Fellow of the Society to obtain the oil from them. He was induced to take this step in consequence of the great discrepancy of opinion which prevailed respecting the true character of genuine cod-liver oil. He was desirous to know, from practical experiment, what were the characters of the pure oil. Many Fellows addressed the Society on the subject. The majority of the Fellows stated that they had found the oil to possess a very marked effect in almost all cases of scrofula and phthisis. In the first class of cases, it was not only given internally, with the effect of much improving the general health, but it was applied locally to scrofulous sores, with the most marked benefit. In phthisis it appeared to exert its influence at once by its nutritious properties. It checked perspiration, and removed emaciation; and appeared, by keeping up the tone of the system, to arrest the further deposition of tubercular matter. Some thought that any oily substance, as butter or almond oil, would have the same effect; others considered the cod-liver to have some specific influence. One gentleman had found it rather injurious than otherwise in some cases of phthisis, from its tendency to disorder the digestive organs. Altogether, however, the opinion generally was decidedly in its favour as a palliative agent in consumption.

NEWCASTLE AND GATESHEAD PATHOLOGICAL SOCIETY.

Jan. 15th, 1849.

Dr. **Charlton** communicated the following case of

Abscess of the Spleen.

A gentleman, aged 42, had enjoyed good health until this last autumn, when he began to lose his appetite, and diminished considerably in weight. He did not, however, seek for medical aid till about the beginning of December 1848, when his symptoms seemed to be chiefly those of dyspepsia. About the 19th of December he was suddenly seized with severe pain about the colon and the region of the stomach, with thirst, anorexia, and considerable febrile excitement of the system. The bowels were at first obstinately confined, but by the free employment of purgatives, especially of castor oil, they at length became more regular. A blister was at this time likewise applied to the epigastrium. The pulse was quick, and there was considerable tenderness over the epigastric region, with a sense of fulness and resistance in the space between the false ribs and the umbilicus. The aspect of the patient was that of one labouring under malignant disease. Counter-irritation was kept up over the left hypochondrium, and the patient took Infus. Taraxaci with Sodæ Subcarb., and a pill with Taraxacum, blue pill, &c. two or three times a day; leeches were also freely applied. Some days after he became considerably worse, and complained of an incessant burning sensation in the stomach and throat, with great thirst; the pulse was quick and small, and he seemed to emaciate rapidly. On the 4th January I was sent for to see him, as he was much worse. For two days previous he had been remarkably well, but during the previous night, after taking a draught containing twenty minims of solution of Mur. Morph., he became excited and incoherent, and in the morning seemed to be sinking. The pulse was at that time very small and intermitting, the whole body was bathed in a profuse sweat, and he was unconscious of the presence of those around him. At 5 P.M. he had rallied considerably, and said that he felt no pain, though he believed that he was dying. The pulse was small and weak, and 130 pulsations in the minute; the skin cool; and the bowels had been thrice acted on during the day: the last stool was somewhat deficient in bile. On examining the region of the epigastrium, it was found that there was a moderately hard resistant tumor occupying the space between the false ribs of the left side and the umbilicus. It extended about an inch beyond the mesial line to the right from opposite to the umbilicus, and its lobulated edge could be here distinctly felt. Below the umbilicus it gradually turned upwards and backwards, and the dulness and resistance continued towards the position of the spleen, save where it appeared to be crossed by the colon. The patient did not complain of any difficulty of breathing, nor of any pain of the region of the thorax, nor, on careful auscultation and percussion, could any signs of disease in that cavity be discovered. From this time the patient continued much as before, with feverish nights and comparatively easy days, till he died on the 10th inst.

Dissection, 30 hours after death.—Temp. 36. Body rather emaciated. On opening the abdomen, a large tumor, exactly corresponding in its position to that marked out during life, was seen occupying the left hypochrondriac region. It was evidently formed by the enlarged spleen, and its edge below and opposite to the umbilicus presented the lobulated form which had been before felt through the parietes. The liver was perfectly healthy, and of the natural size; the stomach lay in its usual position, but the outer wall of the great arch was against the tumor. While endeavouring to separate the attachments of the enlarged spleen a portion of the false membrane at the upper part, where it was attached to the diaphragm, gave way, and the hand plunged into a cavity 5 or 7 inches in depth, filled with a deep port-wine-coloured fluid. Of this fluid, which seemed to consist of blood and a certain portion of pus, half a wash-hand-basinful was sponged up, and we then saw that it had occupied a vast cavity apparently hollowed in the substance of the enlarged spleen, and extending to the spine backwards, while to the right it was bounded by the greater arch of the stomach, and above by the diaphragm. Where this vast abscess had been in contact with the spleen, the parenchyma of that organ was covered with a thick but tender coat of pultaceous reddish matter. It was obvious, however, that the true capsule of the spleen enclosed this mass of fluid, so that it can only be regarded as an abscess of the spleen itself. The various lobules on the right side of the tumor evidently contained fluid, and on opening one of them the contents turned out to be similar to those of the larger cavity, while the walls of the abscess were lined with a similar pultaceous matter. On the external surface of the tumor were some recent adhesions of the peritoneum. In the left pleural sac there was about half a pint of reddish serum, with a considerable quantity of recently-effused coagulable lymph. This was exceedingly tender and soft, and of a reddish-yellow colour. The other viscera were healthy, but the walls of the stomach were thick, and the mucous membrane of that organ was loose and dense.

It is difficult to form any opinion as to the precise period at which the abscess above described was first formed. To judge from the great thickness of the false membrane stretched over, it had been gradually on the increase for the last month at least; yet I do not think that the spleen became generally inflamed and tumified until within ten or twelve days of the patient's death. The signs of peritonitis so plainly exhibited on the first seizure of the patient, may, perhaps, lead to an opposite opinion. The close proximity of so large an abscess to the stomach would account for the occasional sickness, hiccup, and eructation under which the patient laboured, though the same symptoms might arise from the peritonitis. Although there was considerable fulness and resistance between the umbilicus and the left hypochondrium on the occasion of my first seeing the patient, the tumor could not be so accurately defined as it was when I saw him a second time. It is possible that the fluid in the large abscess had accumulated very rapidly in the intervening eleven days, and thus had pushed the spleen downwards and forwards, while, at the same time, that organ itself had become more generally inflamed and tumified. I may notice, also, an error in the diagnosis, the origin of which can be easily explained. In the line crossing from the epigastrium to just below the false ribs on the left side, I could detect, on percussion, a hollow sound similar to that produced by percussing the abdominal viscera. I had concluded from this that the tumor was not connected with the spleen, but that it might be found in the omentum. In point of fact, however, the stomachal sound thus produced came from my striking upon the large sac containing the mixture of blood and pus; while the vibrations were conducted, no doubt, from thence to the stomach, with the walls of whose greater arch the abscess was in contact. The total absence of the severe lancinating pain that characterises cancerous degeneration, and the soft yielding nature of the tumor, rendered it probable that the disease was not of that nature. The exacerbations at night, the quick soft pulse, and the rapid emaciation, were all characteristic of abscess forming within the abdominal cavity. Such abscesses of the spleen are by no means very rare, though I cannot recal to mind having seen a case where it had advanced so far as in the present instance. The outer covering of the spleen is generally, as it is here, much thickened, and the peritonitis that occurred no doubt increased the density of the walls of the abscess, and prevented it from bursting into the peritoneal cavity. A frequent termination is by a communication being formed with the cavity of the stomach, by perforation of the walls of the greater arch. There seems to have been a tendency towards this in the present case, as the walls of the stomach, at the point where it was in contact with the abscess, were inflamed and softened. The large abscess was, in my opinion, the original disorder: the smaller abscesses observed in the lobules may easily be accounted for by the highly vascular nature of the spleen. Several cases are on record where patients have recovered after splenic abscesses of enormous size have emptied themselves by adhesion to, and perforation of, the abdominal parietes, or through the walls of the stomach. Had such an event occurred in the present case, it is possible that life might have been preserved if the evacuation had not been so sudden as to cause death by syncope, as in the instance detailed by Fahner. The other organs of the body were perfectly healthy; and if the contents of the larger abscess had been evacuated, it is possible that the spleen would have tended to have returned to its normal dimensions: while the smaller collections of matter would, as observed by Rokitansky, have either diminished into adipo-calcareous masses, or, increasing in size, they might have burst into the cavity of the larger abscess, and their contents have been thus evacuated.

Mr. C. J. Gibb related the history of

Eleven Cases of Malignant Cholera

which he had attended in the eastern district of Newcastle during the last three weeks, together with the post-mortem appearances observed in three of the cases.

The first cases presented themselves on Christmas Day. Two children of the same family were attacked at five in the morning, and each died after ten hours' illness; whilst a middle-aged woman, attacked the same afternoon, recovered. These were, I believe, the first *spontaneous* cases that showed themselves in Newcastle during this visitation, for neither parties had heard of the approach of cholera, nor been near any infected places. The next case appeared four days afterwards, and was likewise spontaneous; and since that, many have appeared, I understand, in other parts of the town, as well as lately in Gateshead.

Predisposing causes could, I believe, be found in all the eleven cases. The two children first seized, badly clothed and, no doubt, hungry, had been running about the neighbourhood on Christmas eve until twelve or one in the morning, owing to the quarrels of drunken parents. One young man had made the public-house his lodging for four days previous to the attack, and had but quitted it an hour before he was seized: he was dead in twelve more. Most of them had been subject to slight diarrhœa, resulting, probably, as much from irregular diet as from any other cause.

The *locality* in which the cases appeared was in accordance with the known disposition of the disease to follow the course of streams, and be most virulent in damp situations: they all appeared along the banks of the Ouseburn stream; and in one yard, where six out of seven cases proved fatal, there was a drain and well within it, and on one side of it a bank, from which fluids drained away at all times through the walls of some of the lower rooms, or into the yard itself. It is a curious fact, and one perhaps worthy of remark, that in this very street, where six persons have already lost their lives, not a single individual was attacked during the visitation of 1830, although the rest of the neighbourhood was seriously afflicted; and this freedom from its ravages was attributed by the inhabitants to a large lime-kiln which was then situated in front of the street, and at that time was constantly used, and cast forth great heat all around, which would, without doubt, tend greatly to purify and dry the air by the constant currents it would induce. The fact that seven persons were attacked in the same yard, one after the other, each one after having attended upon the other, and this whilst the neighbours in the rest of the street who were not in attendance did not at all suffer, would tend to throw a little doubt upon the non-contagious nature of the disease; although this, of course, is but an isolated fact, and can only be weighty when joined to a more numerous series of smilar evidence.

It struck me very forcibly that there is great danger of catching the disease incurred by relatives attending upon their sick, when they are greatly afflicted by the sufferings of their friends; for I cannot but attribute the seizure in two of the cases (who were the mothers of the parties that were sick) to their over-anxious attention and distress, morbidly predisposing them to the reception of the miasm, or whatever other principle the infectious matter may be that communicates the disease; and this, I believe, is made evident by remembering the fact that, whereas properly appointed nurses, or the medical attendant, rarely fall victims, the afflicted relatives are frequently picked off one after the other. Such has, I understand, always been the case, and is so at present in Glasgow. Such is likewise the case in fever. Ought there not, then, when the epidemic prevails to any extent, to be nurses, accustomed in some degree to wait upon sick persons, appointed by the authorities to attend upon the poorer classes, when there are no proper hospitals near at hand to which they can readily be conveyed?

The premonitory symptoms in almost all the cases was a slight diarrhœa, becoming excessive, and at once followed by all the most distinctive characteristics of the disease.

The onset of the complaint in one of the cases conveyed irresistibly to my mind the idea that a poisoned atmosphere had been inhaled, and that as soon as the system began to feel its effects, most violent symptoms set in, which were to be regarded more as the natural efforts of the body to expel the poison, than the distinctive marks of the diseased action. The woman had been occupied in the market until late at night; arrived at home, she found her son labouring under cholera. She was at that time stout and ruddy, but when I saw her again in the morning, I at once observed the dark sunken areola around the eyes, with the unhealthy dried-up countenance of cholera. On questioning her, however, she had only had one small loose motion, and, indeed, did not complain of being ill, except languid, and did not solicit medicine until an hour or two afterwards, when most violent symptoms set in suddenly, and in ten hours more she was dead.

The diarrhœa was most profuse in all the cases: the quantity of fluid evacuated, especially in one case, was so great that without having seen it, I should have doubted whether the body could have yielded so much; for whatever fluid was taken by the mouth was almost immediately vomited, and not in diminished quantity, but often in greater abundance than that which was taken. In two or three the motions were of a bilious fœtid character at first, but soon assumed the rice-water appearance. The diarrhœa and vomiting almost altogether ceased in nearly half of the cases for two or three hours previous to death; in all of them the motions passed in the bed towards the termination of the disease, the collapsed condition being so great that they came away almost involuntarily. The cramping pains produced in two or three cases such dreadful and general spasms, that the movements more resembled general convulsions than simple cramp. Such was the case with two children first attacked, and one of them, indeed, died in one of these convulsive attacks. Disturbing the patient much seemed to have a decidedly deleterious effect, for the cramps generally seized them on such occasions.

In only two cases did those proper sweatings occur which are sometimes remarked, and those were the two most severe and rapid cases; both in adult subjects, full of life and strength, where we might imagine, *à priori*, that from the vigour of life nature would be able to make the attempt to throw off as well by the skin as by the intestines the deleterious agent oppressing the vital powers.

In none of the cases was a drop of urine passed from the commencement of the attack until death, or the supervention of the reaction, which, however, only happened in three of the cases. The cold, slightly hardened, and shrunken pale lead-coloured tongue, was distinctive enough during the worst stage in all. The blue lips, leaden complexion, and general coldness, with the remarkably rapid disappearance of any former plumpness, were equally well observed in all; but with regard to that remarkably blue appearance of the skin, particularly of the extremities, which is generally said to be so distinctive and invariable, I must confess that I was a little surprised it was not more constant and general in the cases: it was more or less so in all the nails, tongue, lips, and countenance; but the hands, feet, and arms of two or three of the worst of them were not of so impressive a hue as I had been led to anticipate, and in almost all it gradually faded as death approached, and left only in the lips, nails, and extremities of fingers and toes, a tint that was decidedly the true leaden hue.

The cold breath was remarkable in the worst stage of all.

Except in one case, where there was slight occasional delirium, he had continued free from complaint during the whole of the disease. The sedative effect of the collapse, aided perhaps by the peculiar action of the poison upon the nervous system, seemed to prevent the person from betraying that feverish anxiety about the dangerous condition he was in, as is usually seen in other complaints, where death presents himself so unexpectedly, and making such rapid strides towards his victim: they were almost calm and collected, but the intellect was of course rendered somewhat obtuse from their cold collapsed condition.

It appeared very strange that the pulse, when perceptible, although excessively weak in all, did not in any of the cases rise above the natural frequency, or become irregular, but on the contrary rather lost in frequency. In one case, where it was just perceptible, it was about 50; in most it was nearer to 60 than 70; it generally ceased to be felt for two or three hours before dissolution, although the heart could distinctly be heard palpitating.

The breathing was unimpeded in all except two, who experienced a choking feeling, only, however, during the spasmodic attacks; no doubt as well from the muscles of the larynx being involved, as those of the chest.

Of the 11 cases, 9 died: 8 of them in the first stage, without a sign of reaction; and one after recovering from the collapse was seized during the secondary fever with some peritoneal or visceral affection of the abdomen, and died on the second day. The earliest death happened in 8 hours after the accession of the complaint, the longest 18 hours, the average 12 hours.

The treatment pursued was the routine practice in most of them; little opportunity, indeed, was afforded of trying any treatment at all in some of the cases, for death was close at hand when I reached them. Calomel and opium, with aromatics, in gentle and frequent doses, were given in all except two, who had chloroform at the suggestion of Dr. Cargill. Large mustard poultices over the abdomen seemed once or twice to have relieved the vomiting and cramp at the epigastrium for a time, but neither brandy and water, heat in every shape, nor any other measures, seemed to have any permanent or even very sensible effect upon the course of the disease. The chloroform seemed to act as a stimulant, like ether; one of the patients complained of its burning his throat; it appeared in one to have quieted the stomach, and the violence of the symptoms generally, for a short period after commencing it, but after a while did not seem to have any effect; 15 drops were given as a dose at first, and continued in 10 drop doses every half hour to the woman, whilst the boy had 10 drops at first, and 6 every half hour afterwards. The post-mortem appearances in the three cases I examined were so much alike, even in their details, that I can with advantage read them together, without particularizing each one.

One was a strong muscular young man, aged 25, a smith, of drunken habits, and subject to occasional slight diarrhœa; the other two were children, and sisters, aged 8 and 12. The rigor mortis was extremely active in each; the soft structures of the bodies were completely shrivelled up as it were, the face most especially; the lips and nails retained the dark blue venous colour; the extremities of the fingers and toes of a pale leaden hue, shrunken, and the skin corrugated, as if it had been long immersed in water; the rest of the extremities of a slightly ecchymosed appearance, but not of a blue lead-like colour. On opening the abdomen, the small intestines were seen in all three much congested, of an arterial hue in the two children, but of a darker cast in the adult, especially at the upper part of the small intestine, where it was quite of a venous hue; they contained a large quantity of the rice-water fluid in the lower part, but above in the duodenum the fluid was of a thicker equally gruel-like consistence. The large intestine was quite pale, firmly attached, and contained nothing; the mucous membrane of the whole of the intestines was of natural appearance; in a few parts of the small intestines one of the villi was here and there injected, and generally it had the appearance of having been washed. The stomach was much congested in the man, but that may have arisen from his drunken habits, for in the children it was of natural appearance.

The livers looked healthy, contained little blood, and had a dry appearance when cut into. The gall-bladders were distended with dark thick bile; the ducts would not allow a small probe to be passed through them from the gall-bladder. The pancreas was healthy in each. The bladders were contracted to a small hard tumor behind the pubis, and contained not a drop of urine, although the kidneys were every way healthy.

The lungs were healthy, the lower parts slightly congested. The left as well as the right ventricles of the heart were full of dark fluid blood, more like to thin tar than to any other fluid, and except a small flabby piece of fibrine in the left ventricle of one of the hearts, the blood was quite fluid and uncoagulated; the roots of the great veins were filled with the same kind of blood. I am sorry that I did not secure some of the blood and of the rice-water fluid of each, to test the relative quantities of the salts, albuminous and fibrinous matters, in each.

From the pale, empty, and contracted state of the large intestines in each, and the very opposite condition of the small intestines, I should be inclined to think that the evacuations are mainly, if not wholly, thrown out by the vessels of the small intestines; but reasoning from the data afforded by only three examinations would evidently be foolish, and, until further opportunities furnish a more extensive collection of appearances, such a point cannot be determined with any degree of certainty. The post-mortem appearances do not seem to cast anything more than a negative kind of light upon the nature of the disease: they enable us to say what it is not; but, being evidently mere secondary phenomena, and not betraying the motor power which throws the system into such a violent and deadly commotion, still leave to the microscope, or some other minute method of investigation, the task of discovering its real nature.

Mr. **Greenhow** briefly mentioned the particulars of a case of very extensive emphysema, resulting from injury of the lung, in which the patient rapidly recovered under the influence of large doses of tartar emetic.

The Secretary, Dr. **Robinson**, stated the results of an examination, a week after burial, of the body of an infant, which had been disinterred for the purpose, in consequence of a suspicion that its mother and her friends had murdered it. The parties were of bad character, and resident in a remote country district. The mother, who lived in the same house with her parents, had previously borne another illegitimate child, which, according to the report of the neighbours, had also met with its death by unfair means. In the present case the woman had been attended in labour by her own mother, no other person being present; and shortly after the birth of the child the old woman ran out and called a neighbour to see it die. The old man, grandfather of the child, then made a coffin and took the body to the sexton, telling him that it was a still-born child, and, without any further inquiry into the cause of death, the burial took place; the birth, death, and interment of the child, all being accomplished within twenty-four hours.

The Coroner having directed the body to be exhumed, it was found to be that of a well-formed, fully developed infant, nineteen inches in length, and weighing 4½ lbs. In consequence of the coldness of the season, putrefaction had scarcely commenced. The surface was unusually free from lividity, the lips and skin generally being whiter than natural. On removing the linen in which the body was wrapped, a broad bandage was found surrounding the abdomen, and beneath it a square piece of linen similar to that commonly used to envelope the cord. On unfolding this piece of linen, the divided umbilical cord, nearly two inches in length, was seen closely applied to the abdomen, and flattened by the pressure of the bandage. Around its free extremity, a piece of thread, about six inches long, hung loosely and obliquely, having been twisted into a loose knot, the successive circles of which had not been tightened so as to produce any constriction whatever of the cord. On drawing the cord from the abdomen, a second piece of thread, tightly knotted, was found lying in contact with, but *external to, and not at all surrounding the cord*, and on subsequently passing the cord through the circle formed by this knot, the loop was found by far too large to produce the slightest constriction of the cord. The cord itself, like the rest of the surface of the body, was unusually blanched, the large blood-vessels comprising it being quite empty, and at one point only, viz. near the cut extremity, slightly tinged with blood. The cord had evidently been divided by a sharp instrument, and did not in any part present the usual appearances produced by the application of a tight ligature. On opening the abdomen, the intestines presented the same blanched appearance as the skin; the umbilical vein was also found quite empty, and, on dividing it, not a drop of blood escaped. The umbilical arteries were also empty, and the abdominal vessels generally contained scarcely any blood. The lungs were found of a light rose colour: they crepitated on pressure in every part, and on immersing them, with the heart still attached, in a quantity of rain water, they readily floated, and, on cutting them into very small pieces, each portion also floated. There was a little serum in the pericardium; the heart and its appendages were healthy, the former being, however, paler than natural; there was a small coagulum in the right ventricle, and one in the left auricle; the adjacent vessels contained scarcely any blood. The neck was carefully examined, but no marks of violence could be discovered. The mouth was laid open, but there was no mark of injury nor any foreign matter perceptible in it. The stomach contained about half an ounce of the flaky fluid usually met with in newly-born infants. On opening the cavity of the head, the brain was found excessively blanched, but healthy in its structure. On its removal, however, a clot of blood, representing about a drachm of that fluid, was found lying on the base of the skull. The clot was flattened, so as to extend over a considerable portion of the tentorium, being principally applied against the cerebellum. The choroid plexus on both sides also presented in its substance a minute coagulum. The vertebral column was uninjured, and the spinal cord, with the rest of the body, quite healthy. It should have been mentioned that the surface of the body was very clean, and free from any stains of blood, and the cloth in which the body was folded was also very little stained. It was considered by the medical witnesses that the rupture of the small veins near the tentorium, which caused the slight extravasation noticed there, had occurred during birth, and had not acted as the cause of death, for the child had breathed freely, and lived a certain time after birth. They gave it as their opinion that death was caused by the escape of blood from the divided extremities of the umbilical vessels, the usual precautions for securing these vessels not having been observed. The jury returned a verdict that the child died from this neglect, but that they had no means of knowing whether such neglect was wilful.

Dr. **Fenwick**, of North Shields, communicated a statistical paper on the Treatment of Gonorrhœa, which will be forwarded with the report of the next meeting.

LIVERPOOL MEDICAL AND PATHOLOGICAL SOCIETY.

Jan. 25th, 1849.

Aneurism of the Descending Portion of the Arch of the Aorta without physical signs.

Dr. **Turnbull** related the following case:— A strong man, æt. 36, complained of pain in the chest, which was indefinite in situation. He had a slight bronchitis; said he had been ill a week: and his symptoms resembling an imperfect attack of pleurisy, he was treated for it and improved. The pain, however, soon returned, and was now felt about the centre of his chest and the middle of his back, but the tongue was foul, and it was thought that the symptoms were those of dyspepsia. His pulse was not unnatural.

In about fourteen days, swallowing became difficult, which was attributed to a slight sore throat; but the pain increased, and soon even a pill could not be swallowed without being returned. There was now little doubt that some tumor was compressing the œsophagus: the pain became extreme, and the respiration, which was almost impossible, except in the erect posture, was hissing, as if the trachea was compressed. The heart's sounds were never abnormal, and there was no bruit either anteriorly or posteriorly. He died from an attack of pneumonia.

Post-mortem.—A large aneurism of the descending part of the arch of the aorta was found, which had not burst. It almost surrounded the œsophagus, and the pneumogastric nerve was deeply imbedded in the condensed tissues. The bodies of one or two of the vertebræ were slightly eroded.

These pathological appearances did not at all account for the absence of the physical signs of aneurism, but the compressed state of the pneumogastric was probably the cause of the dyspeptic symptoms, and the intense dyspnœa.

Extreme Ossific Disease of the Aortic Valves.

Dr. **Turnbull** also brought forward the following case:—A boy, æt. 10, was severely hurt by a cart, and had immediate spitting of blood. In three months after this, he began to have great dyspnœa and palpitation. The pulse was almost imperceptible.

The first sound of the heart was accompanied by a long hoarse murmur over the whole anterior part of the chest. The second sound was scarcely audible, but was a little more distinct towards the left side of the upper part of the chest. The patient frequently fainted.

Sedatives and narcotics were given.

He took the small-pox, but the pustules never formed perfectly. The pain in the heart was much more severe, and it felt as if it would burst. He could not sleep, so chloroform was carefully administered, with great relief. After this he had narcotics again, but died suddenly in two days. There was never any swelling of the veins of the neck.

Post-mortem.—Great hypertrophy of the left ventricle. Aortic opening almost closed by such extreme ossific deposit as had obliterated the distinction between the valves. There was also an exostosis of one of the fingers, shewing the tendency to ossific deposits.

Dr. **Nevins** remarked upon the ignorance of their being ill, shown by many patients with extensive disease of the heart. In the first of the above cases, the patient had only complained for about a fortnight, though the disease was evidently not recent; and he had himself dissected the body of a dock labourer, who was killed by falling off a horse-run into the dock. His species of work was very severe, and yet he had continued at it until the moment of his death. On examination, an osseous deposit, fully the size of the smallest phalanx of the little finger, was found upon the upper surface of each of the mitral valves. No history could be obtained; yet it was probable, from the nature of his occupation, that he could not have suffered much even from this extensive disease.

Mr. HIGGINSON said that the absence of the second sound, and the feebleness of the pulse, were fully explained by the post-mortem appearances. The aortic opening was so small, that a very small current only of blood would pass out with each contraction of the heart; and the valves being perfectly rigid, could not flap back so as to produce the second sound.

PARIS ACADEMY OF SCIENCES.

Sitting of February 7.

On the Employment of Iodide of Potassium in Chronic Poisoning by Lead.

M. DUMAS presented a communication from M. Melsens on the employment of iodide of potassium in affections resulting from the use of mercury and lead.

The treatment proposed by MM. Melsens and Natalis Guillot rests on this principle: to render soluble the metallic compounds which the system would retain, by associating them with a body which the system most readily eliminates. This point of view has already been realized: first, by means of the property possessed by all the insoluble compounds formed by salts of mercury and the substances which are met with in the system, to become soluble in iodide of potassium; secondly, relying upon the facility and rapidity with which the system eliminates the iodide of potassium, it has been admitted by analogy that the compounds of lead retained by the system would most probably be dissolved and eliminated by iodide of potassium.

In the present communication, M. Melsens mentions several well-authenticated cases of recovery from poisoning by preparations of lead. All the patients treated with iodide of potassium were cured. M. Melsens shows clearly that neither sulphuric acid nor the sulphates can be considered as remedial agents in chronic diseases arising from handling preparations of lead, whilst the sulphate of lead is a poison sufficiently virulent to destroy animals in a few weeks. Dogs never resist its action longer than one month, and some die in a few days. When sulphate of lead and iodide of potassium are conjointly administered to a dog, no morbid effect is produced within the time necessary to kill a dog to which the sulphate alone was administered.

M. Melsens says that, if a very strong dose of iodide of potassium be administered in the first case to a dog suffering from disease arising from the administration of the sulphate, carbonate, or iodide of lead, he quickly dies; but that if, on the contrary, we commence by giving small quantities of iodide of potassium at a time, and gradually increase the dose, the animal is cured in a very short time. The doses of iodide of potassium which kill a dog labouring under the effects of lead, produce no action on a healthy dog. M. Melsens also relates several cases of complete cure which he obtained by following the same plan of treatment with persons affected with tremor from working on mercurial preparations. One of these was completely cured without ever discontinuing his regular work. The mercury came away in the urine, and was found in the state of the iodide: it was impossible to find any trace of the mercury in the urine of the patient after his recovery.

The result of the facts established in this communication is that, by means of the treatment with iodide of potassium, the cure of chronic poisoning by lead or mercury is not obtained until after acute poisoning has first taken place, which acute stage the medical man is fully able to direct, according to the strength of his patient, but which ought to be an object of the most scrupulous attention on his part. The experiments also prove that, although certain medicinal preparations have an action of their own, yet they also act through the medium of substances which they find in the animal economy.

⁂ We do not find that iodide of potassium exerts any well-marked solvent action on iodide of lead, although it very readily dissolves the iodide of mercury. It would have been more satisfactory if, before assigning the recovery of these cases to this solvent action of iodide of potassium, the experimentalist had distinctly proved that lead was thus carried out by the secretions more rapidly than when the iodide was not exhibited. Until this has been shown, the conclusion respecting the curative properties of this salt is not warranted by the facts. It has been recently tried in some well-marked cases, and has signally failed.

ROYAL INSTITUTION.

February 18.

W. R. GROVE, ESQ., V.P.R.S.

On Voltaic Ignition.

MR. GROVE commenced by stating, that nine years since he had there lectured on voltaic combustion, and four years since he had made some observations on the scientific condition of the voltaic arc, and he then exhibited the light so formed.

Heat he defined to be a repulsive power, the effect of which is to enlarge matter in space. The repulsion extends to distances. Fresnel found that when he heated two gold leaves in vacuo, they repelled each other.

With the exception of some crystalline bodies, as ice, for instance, which, when converted into water, contracts, heat causes the expansion of matter. The expansion produced by heat is communicable—a body near to the heated body expands. In a former lecture, Mr. Grove had shown the communication of expansion from the heated to another body, and the correlative contraction in the body communicating the expansion to the other.

Molecular friction is one source of heat. When substances combine chemically, they give out heat according to the energy of the combination.

The power exists of transferring chemical force: it may be transferred by the voltaic circle. Chemical force can pass through a series of conducting bodies, and so act chemically at a distance. In the voltaic battery, chemical combination takes place all in one direction, *i. e.* in one circle. The chemical combination in the batteries can be transmitted and produce decomposition elsewhere in exact proportion to the amount of chemical action in the cells.

Mr. Grove passed the voltaic current, making his body part of the circuit, through a metal stamp, previously prepared and placed on paper moistened with iodide of potassium, and it produced a black impression on the paper (iodine) of the shape and size of the stamp. By weighing the product so obtained, the exact amount of chemical combination in the cells behind could be ascertained. It is fair to suppose, if chemical combination can be transferred, that the igniting power can be transferred also. Mr. Grove brought a plate of platinum and one of zinc (each in connection with the battery) into contact in a weak mixture of acid and water, and immediately heat was transferred through the metals, and ignition was developed at the point of the contact. On elongating the point, and passing the current through a long narrow platinum wire, the wire became immediately of a white heat from end to end. The heat of the chemical combination, separated from the focus of combination, ignited the wire in consequence of platina being an indifferent conductor of electricity, and thus meeting with some obstruction to its passage. In proportion as the body transmitting the current is a good conductor, the body expands less and heat is not so notably produced; the greater the resistance to transverse expansion, the greater the heat. Silver is a good conductor, consequently it does not become red hot, like platinum, when transmitting the voltaic current. This Mr. Grove illustrated very beautifully, by passing the current through a compound wire composed of alternate pieces of platinum and silver, when, while by the same current, the platinum was ignited, the silver was not; and thus was formed, as it were, a chain of links alternately incandescent and dark.

The importance of the internal molecular condition of matter on the production of voltaic ignition having been thus shown, Mr. Grove stated that the external circumstances were equally important. The platinum wire, which, as had been seen, was ignited in an atmosphere of common air, would not be so ignited in an atmosphere of *hydrogen*, although transmitting the same voltaic current. Mr. Grove illustrated this beautifully by passing the current simultaneously through two platinum wires,—one in an atmosphere of hydrogen, the other of common air: that in the common air was ignited, while that in the hydrogen was not so. This showed the necessity of considering in every experiment the circumstances around us. In the former experiment the molecular actions only were considered, and not, as in the latter, the atmosphere without. If, by the aid of an air-pump, he merely rarified the air in which the platinum wire conducted the electricity, the ignition would be greatly increased. The less dense the air by rarefaction, the greater the ignition; but in hydrogen, which is itself less dense than air, the converse obtains. The non-ignition in hydrogen Mr. Grove considered to depend on a cooling effect inherent in the gas: it is a molecular and purely physical effect, and not chemical.*

Hydrogen, it is said, burns, while oxygen is said to support combustion; but while hydrogen burns in an atmosphere of oxygen, oxygen burns in an atmosphere of hydrogen. But, as was beautifully shown, while the hydrogen (carburetted) burns with a large illuminating flame in oxygen, oxygen burns with a long thin blue flame in carburetted hydrogen. There is a cooling effect in hydrogen which does not exist in oxygen. Owing to this cooling effect of hydrogen, atmospheric air cannot be burned in it, although hydrogen can be burned in air. In an atmosphere of phosphorus vapour, which is less cooling than hydrogen, the breath from the body actually burns. Mr. Grove showed that his own breath became luminous, when, by means of a tube, he breathed into a flask in which phosphorus vapour had been diffused by means of ether.

We can transfer chemical action by the voltaic battery, and we can also transfer heat by the same apparatus. Common flame bears the same relation to voltaic light that common chemical action bears to voltaic combination: in the latter case the forces are polarized.

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* Hydrogen may be a much better conductor than air of the same degree of lightness. The heat of the wire may be thus more speedily lost by convection.

If two substances are placed near each other in the voltaic circle, they attract each other and touch: thus two gold leaves so placed were so strongly attracted that they came in contact and were then ignited. Two copper wires so placed and approximated fuse. The two fused copper ends attract each other and burn with a magnificent green light in forming the voltaic arc. If this experiment be performed in hydrogen, the light is comparatively feeble and interrupted, owing to the cooling effect of the gas.* As charcoal points disintegrate readily, they give a more brilliant light than copper in the voltaic arc. Mr. Grove gave several reasons for stating that the voltaic current produces expansion in a transverse direction; thus, on passing the current through a wire from which a bullet was suspended, the wire is actually shortened, proving that some expansion must take place transversely, and that there must be a degree of contraction from end to end.

Mr. Grove then went into a calculation of the probability of the application of voltaic light to practical purposes. To test it on the score of expense, he ascertained from their respective shadows, what amount of voltaic light was obtained from the action of fifty cells when compared with the light of a wax candle; and he calculated in round numbers that the voltaic light was equal to the light of 1500 wax candles. From experiments made on the previous day, Mr. Grove calculated that this amount of light might be produced at a cost of from 3s. to 4s. per hour. On the score of cost, and the relative quantity of light, these experiments were therefore encouraging; and Mr. Grove considered that the light might ere long be advantageously and economically employed in light-houses and other places where a very brilliant and uninterrupted light was required. It does not promise so well for the lighting of public edifices or open streets or squares, owing to the rapid diminution of the light with increased distance. Owing to this law of decrease in the intensity of light according to the square of the distance from the source of light, a gas-lamp at the end of a street would give more light than the voltaic lamp in the centre; the intensity of it diminishing in the inverse ratio of the square of the distance. The light would be too intense at one part, and too dim at another: a diffused light is, indeed, the most desirable for streets, and a bright luminous cloud, not producing marked shadows, would, it has been well remarked, constitute the best species of illumination.

At the conclusion of Mr. Grove's very interesting lecture, the voltaic light was exhibited in vacuo, and burned steadily for a considerable time, with intense whiteness and dazzling brilliancy. It produced shadows as strong as day-light: the gas-lights, and the flames of wax candles, burned of a very dull red. The shadows of objects were as dark as in strong sun-light, and even the flame of a wax candle was sufficiently opaque to throw a well-defined shadow on the wall. The effect on colour was remarkable; the greens, blues, and reds in the dresses of the female part of the audience, which had a dingy appearance by gas-light, suddenly became as clear and as intense as in sunlight.

In the Library, various art-products were exhibited,—among others an exquisite specimen of machine sculpture; and Mr. Varley showed, with great clearness through his microscope, the circulation in the Nitella.

Correspondence.

THE MALIGNANT CHOLERA—A NEW OR AN OLD DISEASE ?

Sir,—I have read with great interest in your pages the lecture recently published by Dr. Chambers on the subject of cholera. He adduces strong arguments in support of a proposition of great intrinsic probability, namely—that a disease which has raged epidemically with so much violence as has been exhibited by Asiatic cholera in its various visitations during the present century, should be recognisable in occasional cases, or sets of cases, at previous periods. If we are justified in supposing that the occurrence of an epidemic disease is determined in the individual case by the condition of the atmosphere, and the predisposition of the recipient, we can find no difficulty in believing that strong predisposition may give occasional instances of the disease, where the constitutio aeris epidemica is not of sufficient potency to diffuse it widely; and thus if the epidemic state of atmosphere should occur for the first time at an advanced period of the history of medicine, some isolated cases will have probably preceded the complete development of the disease in its historical character. Meanwhile the student who may have read with pleasure and instruction the valuable lecture of Dr. Chambers, may possibly require to be reminded, that the occurrence of cases or groups of cases, having common points with Asiatic cholera, at periods previous to 1800, may be admitted, without affording any argument against the nosologist, who since that time may see reason to class Asiatic cholera as a new species of disease, *i. e.* as a form of disease which had not before been recognised in its distinct and separate character. Such, indeed, ought to be the march of philosophical nomenclature—not readily deviating from preformed arrangements in favour of unusual cases, but leaving them under the most nearly approximate nosological head until their number and repetition has at last established their claims, and furnished them with the data for recognition as a new disease. To disturb this process of alteration in nomenclature, because the type of the new disease is occasionally to be found in the records of past cases, would materially impede the march of medical inquiry. The endeavour to obtain differentiæ may, no doubt, be carried out precipitately, so that new diseases may be invented instead of being discovered; but, after all, the endeavour itself is quite essential to the advancement of knowledge. Accepted with this caution the retrospects of Dr. Chambers are most valuable.

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* In hydrogen there was no persistent incandescence, but flashes of greenish blue flame spread through the vessel, having very much the appearance of the aurora borealis.

I have the honour to be, sir,
Yours faithfully,
THOS. MAYO.

56, Wimpole Street,
Feb. 17, 1849.

ELECTION OF MEMBERS OF COUNCIL OF THE ROYAL COLLEGE OF SURGEONS.

SIR,—Your number of the 12th ult. contains an important letter on the mode of filling up the vacancies in the Council of the College of Surgeons, calling in question the results of the present system of election, as compared with the former.

I have long since held the opinion, that unless the Council could procure an act, similar to the Apothecaries' Company, a time will come when the Institution must sensibly decline: indeed, the letter referred to bespeaks it is already showing itself.

We want protection from the various empirics; as bone-setters, cancer curers, &c. &c.

On referring to the 11th volume of your Journal, it appears the former body composing the Council applied to Parliament twice for a power of control over uneducated persons, but their appeal was not listened to.

It is doubtful in my mind if any permanent good would accrue from extending the "elective franchise" to all the members of the College: the bustle and confusion at every fresh election would probably be similar to what is carried on at some of the hustings in choosing members of Parliament. Neither do I attach so much value to the Fellowship as some are apt to suppose where they have been long established in different parts of the country; for were they to be created fellows to-morrow, it is doubtful whether they would be any wiser or more opulent than before, or stand a jot higher in the estimation of their patients. Why not, then, rest contented with the membership after passing through the necessary ordeal?—I remain, sir, your obedient servant,

JOHN COLLIER, M.R.C.S. L.A.C.

Brackley, Feb. 14, 1849.

NEW ANÆSTHETICS.

SIR,—Though my paper "On Anæsthesia, and the Agents by which it may be produced," will appear in the forthcoming part of the next volume of the *Transactions of the Provincial Medical and Surgical Association*, now in the press, yet as some little time will necessarily elapse before it can be published, it may not be improper nor without interest, to state, that amongst the many substances upon which I have experimented, there are two which are most worthy of attention, as of easy practical application.

The one which was amongst the earliest I tried, is *common coal gas*. It is a safe, manageable, and effective anæsthetic, and very cheap as everybody knows; though the smell is at first unpleasant, it is inhaled without difficulty or repugnance.

The second is a substance which I have more recently discovered, and if my anticipations be well founded, it will be found to be the best agent yet mentioned, and will, I think, supersede those now employed.

I believe it to be possessed of all the good properties of chloroform, and in a great degree free from those which are objectionable. It is equally pleasant, potent, and speedy in its action. The anæsthesia produced by it may be rendered as profound and as prolonged as may be wished. While a smaller quantity of it than of chloroform will produce a sufficient degree of insensibility, a larger quantity may be given with impunity. The state of collapse is not so great. The animal may be recovered from a more dead-like condition than where this is induced by chloroform; at the same time the process of recovery is more rapid, and it is unattended by any of those distressing symptoms so often witnessed in animals rallying from a large dose of chloroform.

The substance is the *chloride of olefiant gas*, as named in "Fownes' Manual;" the hydrochlorate of *chloride of acetyle, or oil of olefiant gas*, in the eighth edition of "Turner's Chemistry;" and formerly called *Dutch oil*, or *oil of the Dutch chemists*.

In appearance and smell it is not very dissimilar from chloroform, but in composition it differs most materially: chloroform being composed of *two* atoms of carbon, *one* of hydrogen, and *three* of chlorine, with a boiling point of 140°, the specific gravity of the liquid being 1,480, of the vapour 4·2; while the chloride of olefiant gas is composed of *four* atoms of carbon, *four* of hydrogen, and *one* of chlorine: its boiling point is 180°, the specific gravity of the liquid 1·247, of the vapour 3·4484,—constituting differences which are very important, and sufficient, I believe, to explain the facts of its superiority.

I need not here detail any of the experiments upon which this statement is founded, nor the reasons which induced me to make trial of this and many other substances, as they are mentioned at length in the paper to which I have alluded, and which will shortly be in the hands of the members of the Association; my object now being simply to mention the fact.

I am, sir,
Yours faithfully,
THOMAS NUNNELEY, F.R.C.S.E.
Leeds, Feb. 12, 1849.

Medical Intelligence.

DENIAL OF FEES FOR OPERATIONS RENDERED NECESSARY BY RAILWAY ACCIDENTS.

Cox v. *The Midland Railway Company.*

WE are informed that the Midland Railway Company, in defiance of public opinion, and in the face of the following letters, have called upon Mr. Sands Cox to defray *their costs* of the action.

Extract from Letter of Mr. Suckling, Plaintiff's Solicitor.

Cox v. *The Midland Railway Company.*

It has been proved over and over again, that the Company's servants sent for Dr. Davies from Coleshill. The first question Dr. Davies asked the messenger was, "who sent for him;" and the answer was, "the station master." On this Dr. Davies went to Whitacre. Four medical men attended the man; and, after a consultation, the station master at Whitacre telegraphed the superintendent at Birmingham to send Mr. Sands Cox to join in the consultation. The intense cold and snow having rendered the telegraph useless, Mr. Davies, the surgeon, went to Birmingham for Mr. Cox, and consulted Mr. Needham, one of the Company's chief clerks there, who fully approved of what had been done, and put on a special carriage for Mr. Cox's accommodation, which, I believe, was taken off at Whitacre, and kept there until Mr. Cox returned. And on two subsequent occasions Mr. Needham sent Mr. Cox to Whitacre, free of fare, to see how the man was going on.

Neither Dr. Davies nor Mr. Cox gave credit to Higgins for their services. Mr. Cox knew nothing of Higgins: he trusted the Company. The Company, through their counsel, promised that Mr. Cox's reasonable charges should be paid. His charges have been admitted to be fair, and that they ought to have been paid, there cannot be two opinions.

The defendants appear to estimate the value of a poor man's leg at £100, no matter what his occupation, or whether he has a family or not; but I can tell them that in this case, after the Doctors, Innkeeper, and Attorney had been paid, nothing like that sum would have remained.

THE LATE ACTIONS AGAINST THE MIDLAND RAILWAY COMPANY.

To the Editor of Aris's Gazette.

SIR,—Having observed in the *Times* of Tuesday last, and in the *Birmingham Journal* of to-day, a letter from Mr. Bell, Secretary to the Midland Railway Company, which contains matter directly opposed to facts; and as I happen to be in possession of letters from my Counsel (Mr. Hayes) which support my previous and present statement, I beg to send copies to you, trusting you will be good enough to give them publicity.

At the late trials the Company did not attempt to deny negligence. They did not, either at Warwick, or in the Court of Exchequer, pretend that they had paid the Doctors or Innkeeper, but they set out with saying the charges were unreasonable; and finding that that ground would be cut from under them, they, to the surprise of every one, resorted to the desperate defence that the calling in of the Doctors, and the employment of the Innkeeper, were contracts which required the seal of the Company to be binding.

Mr. Bell has thought proper to advert, with no little censure, upon my conduct in this matter; but after the letters from my Counsel are laid before the public, I shall with confidence leave the matter with them to judge if my conduct has been such as Mr. Bell states, or "calculated to convey anything but a correct notion either of the facts of the case, or of the conduct and motives of the Directors and Officers of the Company."

I am, sir,
Your obedient servant,
GEORGE CHILWELL.
Old Square, Birmingham,
Feb. 3, 1849.

Temple, September 29, 1847.

DEAR SIR,—I shall not have an opportunity of seeing Mr. Macaulay for some time to come, but will mention the subject of your note on the earliest occasion.

I don't think Mr. Davies will be affected by Higgins's verdict, as it was clear he never gave credit to Higgins, but attended in consequence of being sent for by the servants of the Company. It was understood between Mr. Macaulay and myself that the Company would settle for medical attendance, provided such charges were reasonable, with regard to the situation in life of the patient.

I remain, dear sir, yours truly,
G. Hayes.

G. Chilwell, Esq., Solicitor,
Old-square, Birmingham.

Temple, November 13, 1847.

Higgins and the M. R. Company.

Dear Sir,—At the trial it was understood between Mr. Macaulay and myself that the amount agreed to be paid to Higgins was *exclusive of medical and surgical charges.* Mr. Macaulay stated that all reasonable charges of this nature would be paid by the Company; but he did not say that they would pay the particular bills referred to by you, but on the contrary stated that the Company had complained of the amount of some of the bills sent in as excessive, considering Higgins's situation in life. The question of medical charges was one with which Mr. Whitehurst and I considered we had nothing to do as counsel for Higgins, for it appeared that the medical men had been sent for by the agent of the Company, and that they had given credit to the Company, and not to Higgins.

I should conceive the best way would be for the medical men to refer the Company to the arrangements and admision made by Mr. Macaulay at the trial, that the company would pay the medical charges. The Company, or their solicitor, will then refer to Mr. Macaulay for information, and his answer will come in a regular way before the directors. The directors, on receiving this answer, will no doubt admit their liability to pay medical charges, but the question of *amount* is a matter entirely to be settled between the medical men and the Company. I have not yet had an opportunity of seeing him with respect to Higgins, but will do so in a day or two.—Yours truly,
G. Hayes.

G. Chilwell, Esq., Solicitor,
Old Square, Birmingham.

Temple, January 10, 1848.

Dear Sir,—The medical men's charges is a matter between *themselves* and the Company, and to whom I have always *understood they gav[illegible]edit.* This was the reason why I considered that it was proper to omit the mention of it in the memorandum of settlement, which was entirely a matter between *Higgins* and the Company; and the medical men not having given credit to Higgins, he had nothing to do with their claim. You are not acting prudently, or indeed correctly, in corresponding with the Company as if it were an affair belonging to the action of *Higgins and the Midland Railway Company*, as their letters, and I presume yours, are entitled.

If the medical men have a good case by way of evidence to fix the Company (as I was informed), they may sue the Company as their employers, but I have no means of knowing whether this is the case, and cannot advise on such a point by letter, having neither time to write nor any facts to enable me to judge.—I remain, dear sir,
Yours truly,
G. Hayes.

G. Chilwell, Esq., Solicitor,
Old Square, Birmingham.

PROGRESS OF CHOLERA.

The registered deaths from cholera in the metropolis during the past week have been 49, being a decrease of 6 on those of the preceding week. On the 20th inst. there were reported 21 cases at the Refuge, Hackney Road, of which 7 proved fatal. The following letter, addressed to the editor of the *Times*, shows that there is great irregularity in making the returns:—

Sir,—In the Registrar-General's report of cases of cholera for the week ending February 14, published in the *Times* of last Thursday, I see it stated that four cases had occurred among the children belonging to the Islington parish, recently removed from Tooting to Park House, Hackney.

I beg to state, through the medium of your journal, that no case of cholera has occurred among the children under my charge at Park House, Hackney, since January 19, and that no death has occurred from any disease whatever since Jan. 21. On the contrary, the children generally are in excellent health.—I am, sir,
Your obedient servant,
Wm. Pearce, M.R.C.S.E.

2, Duncan Street, Islington,
Feb. 17, 1849.

We have heard that many cases of simple diarrhœa have been set down for cholera.

The subjoined table gives the number of cases and deaths up to the 21st inst.:—

	Cases.	Deaths.
London . . .	1066	559
Provinces . .	942	390
Scotland .	10,552	4612
	12,560	5570

THE CHOLERA IN IRELAND.

Belfast.—We are sorry to report that this disease has very considerably increased within the last two or three days, contrary altogether to what we should have anticipated from the extreme fineness and mildness of the weather. The malady, however, is altogether an unaccountable one, and seems to be but little, if at all, acted upon by atmospherical influences. The following is the official return :—Monday, new cases, 24 ; deaths, 6 ; recoveries, 13. Yesterday, new cases, 22 ; deaths, 4 ; recoveries, 8 ; remaining 104. Total since commencement, 419 ; deaths, 141 ; recoveries, 174 ; remaining under treatment, 104.

Derry.—We regret to learn that cholera has increased in our workhouse during the past week. We have before us a return of all the cases which have occurred there since its first appearance, about three weeks ago. This return is made up to yesterday morning (Tuesday), at 9 o'clock :—

Died	9
Recovered	5
Under treatment	8
Total number of cases from commencement	22

We are happy to be able still to say that the disease has not yet appeared in town.

Lisburn.—Ten well-marked cases of Asiatic cholera have occurred at Lisburn, six of which have proved fatal, and four are under treatment, two of them hopeless. The disease has manifested itself in this town and neighbourhood with peculiar malignity. Many deaths have taken place in the neighbourhood after a few hours illness, without any medical relief, but from the history of the case, no doubt can exist but they died of cholera.

Whatever influence filth, poverty, and neglect of sanitary arrangements might have in promoting the spread of such a disease, its introduction into Belfast and subsequent spread to other localities, is strongly indicative of its contagious character.

KING'S COLLEGE HOSPITAL.

On the 15th inst. a quarterly general court of the governors of this charity was held at the board room of the hospital, the Rev. W. Ellis in the chair. From the report read by the secretary it appeared that the resident patients during the past year numbered 1,253. The number of patients receiving out-door treatment reached 19,385 ; and it was mentioned that it was scarcely possible, with the present accommodation, to assist a greater number, owing to the crowded state of the rooms appropriated to that class of patients. The expenditure of the hospital during the year, somewhat exceeded the income, leaving a total amount of £380. 4s. 4d. due to the treasurer. The receipt of a legacy of £50 was reported from the late Mr. C. T. Pearce.

FALL OF RAIN DURING THE YEAR 1848.

It has been a general subject of remark, that the past year was remarkable for the large quantity of rain which fell. In the Registrar General's return, we find the following statement :—

	Inches.
1841	33·3
1842	22·6
1843	24·5
1844	25·
1845	22·3
1846	25·3
1847	17·6
1848	31·9

It will thus be perceived that a remarkably wet year followed a remarkably dry one. The excess of the fall of rain in 1848 over the average of the preceding seven years, (24·4 inches) was therefore 7·5 inches.

The fall of rain during the year 1848 all over the country, was about one-third larger than the average fall; and this excess fell during the first three quarters. The fall in the last quarter was about the average at most places.

DEATHS IN LONDON DURING THE QUARTERS ENDING SEPTEMBER, 1847-8.

Causes of Death.	Quarters ending Dec. 1847.	1848.
All Causes	19605	14725
Specified Causes	19571	14679
Violence, Privation, Cold, and Intemperance	529	412
Small Pox	372	413
Measles	881	218
Scarlatina	747	1765
Hooping Cough	426	472
Croup	116	62
Thrush	52	48
Diarrhœa	400	375
Dysentery	91	74
Cholera	12	468
Influenza	1161	24
Typhus	1279	883
Phthisis or Consumption	1873	1450
Hydrocephalus	408	342
Apoplexy	349	336
Convulsions	592	477
Pericarditis	27	34
Aneurism	24	16
Disease of Heart	522	429
Bronchitis	1642	766
Pleurisy	76	36
Pneumonia	1743	963
Asthma	428	146
Teething	141	91
Childbirth	170	63

OBITUARY.

On the 29th ult., William Peck, Esq., surgeon, Kimbolton, Huntingdonshire.

GREAT INCREASE OF VACCINATION IN 1848.

Abstract of Returns of the Number of Persons Vaccinated by the Public Vaccinators in 626 *Unions and Parishes in England and Wales, in the years* 1847—1848.

Years.	Number of Unions, &c.	Number of Vaccinators.	Number of Persons Vaccinated.	Number of Persons successfully Vaccinated.
1848	626	3,154	389,367	374,232
1847	621	2,855	267,895	247,762
Increase in 1848	5	299	121,472	126,470

POOR LAW MEDICAL OFFICERS.

A GENERAL meeting of Poor Law Medical Officers was held on Monday afternoon at three o'clock, in the Hanover Square Rooms, and was very well attended. Lord Ashley presided, and at some length advocated the claims and services of a body of men who were intrusted with the highest interests of the poor classes, and who were most inadequately rewarded for what they did. He had alwyas been of opinion that the medical gentlemen employed to attend on the sick poor could not discharge their duties properly unless they received an income suitable to the laborious offices which they had to perform, and were rendered independent of the boards of guardians. They ought to be enabled to occupy the position that belonged to them as educated men intrusted with great responsibilities; and, therefore, not only should they be independent in their circumstances, but they should not be subject to the caprices of persons who were always ignorant, and occasionally insolent. They ought to be responsible to those only who were capable of appreciating their services, and of judging of the emoluments which should belong to men fulfilling such important duties. He thought also that their situations should be permanent, for the offices which they filled were of the most complicated and burdensome kind, requiring an immense amount of labour and skill. When, therefore, they found gentlemen invested with the charge of 5,000, 10,000, and sometimes 20,000 fellow creatures, receiving on that account the most miserable incomes, it amounts to nothing more or less than an insult upon the poor and the medical profession.

At the close of the noble Lord's address, the secretary read the report of the Association. That document detailed the steps which had been taken to secure a legislative remedy for the grievances of which the Poor Law medical officers complained, and the result of interviews which deputations from their body had had with the Board of Health, and other departments of the Government.

The union medical officers of England and Wales numbered 3,000 out of 15,000 members of the medical profession, and the whole body was unanimous in condemning the present system of Poor Law relief. To these 3,000 gentlemen, nearly 3,000,000 of the poor in distress and sickness were intrusted for relief, yet though £8,000,000 was annually raised for the nominal support of the pauper population, of that vast sum £170,000 was the largest sum which the 3,000 medical officers of the country had hitherto received for their services. Again, the average cost of drugs in each case at hospitals was 4s. 2d., in dispensaries 2s. 2d., while to medical officers from 1s. 4d. to 1s. 6d. was all that was allowed; the time expended and the skill employed by them being quite omitted from the reckoning. The report concluded by quoting the language used by Sir George Grey on the subject—that the question of expense was subordinate to what was necessary in order to secure efficient medical relief. Several gentlemen then addressed the meeting in support of resolutions having for their object to secure by legislative enactment increased pay, independence of the boards of guardians, and permanent appointments to the medical officers of the poor, their offices being held under the supervision of medical inspectors, according to a suggestion made by Dr. Southwood Smith. Mr. Wylde, M.P. addressed the meeting in support of a lengthy resolution, which he submitted to it, proposing a total reform in the constitution of the profession at large, and attributing to the existing imperfections of that constitution the evils which had arisen, and of which the general practitioners now so loudly complained. As the resolution had not previously been submitted to the consideration of the chairman, and was objected to by him on that account, the hon. gentleman withdrew it, and the other resolutions having been unanimously adopted, the meeting separated.

CONTAGION OF CHOLERA.

GREAT stress was laid on the fact that the nurses who attended the cholera patients at Tooting escaped the disease. From a paper inserted in the Edinburgh Monthly Journal, however, we learn that *five* of the nurses in the Edinburgh Cholera Hospital were attacked by the disease. It was said (on the principles of the Board of Works) that this accident was not owing to contagion, but to the crowded state of the hospital, and the consequent accumulation of an animal poison which would have had no effect had the number of persons been fewer! *Practically*, however, the fact of *communication* of the disease remains the same; and *theoretically* such an hypothesis is directed equally against the existence of *all other* contagions which do not present themselves in the form of a specific and tangible virus, inasmuch as they *all* require a certain degree of concentration and crowding to ensure their action on a healthy individual. — *Edinburgh Journal.*

BOOKS & PERIODICALS RECEIVED

DURING THE WEEK.

- Portraits of Diseases of the Skin. By Erasmus Wilson, F.R.S. Fasc. 4.
- Humboldt's Cosmos: Sabine's translation. Vols. 1 and 2. Cheap [4th] edition.
- Dr. Golding's Synopsis of Percussion and Auscultation.
- The British Record of Obstetric Medicine and Surgery. No. 4, Vol. 2, Feb. 15.
- Remarks on the Cleansing, Purifying, and Ventilating of Common Sewers, &c. With Plans. By W. Sowerby, Jun. C.E. &c.
- American Journal of the Medical Sciences. January, 1849.
- Two Lectures on Cholera and Intermittent Fever. By C. W. Bell, M.D. &c.
- On the Nature of Limbs. A Discourse. By Richard Owen, F.R.S. &c.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Feb. 17.

BIRTHS.		DEATHS.		*Av. of 5 Win.*	
Males....	779	Males....	640	Males....	592
Females..	718	Females..	585	Females..	577
	1497		1225		1169

CAUSES OF DEATH.		*Av. of 5 Wis.*
ALL CAUSES	1225	1169
SPECIFIED CAUSES	1221	1164
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*..	333	221
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	56	54
3. Brain. Spinal Marrow, Nerves, and Senses	131	141
4. Heart and Bloodvessels	50	40
5. Lungs, and other Organs of Respiration	236	243
6. Stomach, Liver, and other Organs of Digestion	69	67
7. Diseases of the Kidneys, &c...	14	13
8. Childbirth, Diseases of the Uterus, &c.	11	9
9. Rheumatism, Diseases of the Bones, Joints, &c.	14	7
10. Skin	0	
11. Old Age.....	50	73
12. Sudden deaths	10	14
13. Violence, Privation, Cold, &c.	26	37

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	17	Convulsions	39
Measles	15	Bronchitis	103
Scarlatina	64	Pneumonia	93
Hooping-cough ..	75	Phthisis	124
Diarrhœa	27	Dis. of Lungs, &c..	10
Cholera	49	Teething	13
Typhus	49		
Dropsy	18	Dis. of Stomach, &c.	2
		„ Liver, &c...	16
Hydrocephalus....	25		
Apoplexy..........	37	Childbirth	7
Paralysis	24	Uterus............	4

REMARKS.—The total number of deaths was 56 above the weekly winter average. Cholera and typhus proved fatal to an equal number of persons (49), the majority of deaths from both diseases taking place at the adult period of life.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 30·49
„ „ „ Thermometer[a] ...... 40·7
Self-registering do.[b] .... Max. 71·7 Min. 19·8

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·0. — Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 2·7° above the mean of the month.

NOTICES TO CORRESPONDENTS.

The Resolutions passed at the Meeting of the Poor Law Medical Officers will be inserted in the following number.

THE GENERAL INDEX.

We have to announce to our Subscribers that a GENERAL INDEX to the *first* 40 *Volumes* of the LONDON MEDICAL GAZETTE will, it is calculated, form a large Volume of about 700 pages. The cost of the INDEX VOLUME, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. WILSON AND OGILVY, 57, Skinner Street, will receive the Names of Subscribers.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

By Bransby B. Cooper, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture L.

Diseases of the Generative Organs (continued).—*Malignant disease of the testicle—Scirrhus of the testicle not common—character of the disease—Case—Serocystiform disease of the testicle—diagnostic distinctions from hydrocele and medullary sarcoma—The disease in non-descended testicles—Operation of castration—by dissecting out the testicle—by removing a portion of the scrotum and testicle together—Wounds of the scrotum—case—Diseases of the spermatic chord—Varicocele—diagnosis of—treatment—constitutional or by various operations—Sir Benj. Brodie's operation—Ricord's ligature—Sir Astley Cooper's operation—Operations seldom effective—a similar disease sometimes occurs in the round ligament of the uterus—Hydrocele in the female may occur at any period of life—Varieties of hydrocele—diagnosis of—treatment by local application—spontaneous cure—case—surgical treatment—incision—cases—excision—Caustic—Seton—Ricord's modification of the seton.*

Scirrhus of the testicle.—True scirrhus of the testicle is not by any means of common occurrence; that is, if the term be used to designate that malignant affection so frequent in the breast of the female, and known as hard cancer. It is not, however, very unusual to meet with a hard enlargement of the testicle after orchitis; and this, if existing in a cachectic diathesis, would probably be mistaken for true scirrhus, but I have myself never known such a condition to go on to ulceration, having at the same time the hardened everted edges and other characteristics of true cancer. In this hardening of the testicle, the skin remains intact, the mass becomes tuberculated, and acute pain, extending up the cord, is often experienced by the patient. I extirpated the testicle for a gentleman who was suffering from this disease, as it would not yield either to constitutional or local remedies: upon dissection of the tumor it was seen that the secreting structure of the organ was entirely changed, nothing like tubuli seminiferi remained, and the whole constituted a mass somewhat divisible into lobes, unequal both in size and consistence, some being almost cartilaginous. The tunica albuginea was also considerably thickened; the wound healed shortly after the operation, and the patient, although the tumor was removed six years ago, continues perfectly free from any symptoms of its return. There is, however, no doubt, a kind of disease simulating scirrhus, which does sometimes return, being propagated to distant organs through the medium of the absorbents: and it must therefore be considered as a malignant disease.

Sero-cystiform disease of the testicle.—Sir Astley Cooper distinguished this disease by the term hydatid testicle, but as the cysts do not contain animalculæ the name is incorrect. The swelling in this complaint is irregular in form, and fluctuating in some parts of its surface whilst it is solid in others, so far (although not a malignant affection) resembling medullary sarcoma: the best means, perhaps, of distinguishing between the two consists in puncturing one of the softest parts of the tumor, when, if it be a sero-cyst, a limpid fluid only will be poured out, while in medullary sarcoma a semi-fluid sanious matter exudes. I believe it has never been ascertained whether the fluid of the sero-cyst contains spermatozoa; I am inclined to expect that this would be the case; and then a further and very certain diagnostic mark would be obtained.

In the sero-cystiform disease the tumor increases rapidly, but not so much so as in malignant affections: in the former, however, there is no constitutional disturbance, while in the latter the health of the patient is invariably very much disordered.

I am much disposed to consider the sero-cystiform disease of the testicle as a modification of encysted hydrocele, and think it might properly be termed "internal encysted hydrocele of the testicle." In the diagnosis of this disease it is sometimes difficult to distinguish it both from hydrocele and medullary sarcoma; but the irregularity of the surface of the tumor, with the absence of the pyramidal form and transparency, are generally sufficient to mark distinctly the difference between it and hydrocele: in addition to this, the great weight of the swelling, and the unequal consistency of its surface, indicate positively that it contains solid as well as fluid matter: nevertheless, the best surgeons have fallen into error on this subject, and have plunged the trocar into a sero-cystiform testicle, mistaking it for hydrocele of the tunica vaginalis. A section of a testicle affected by this disease presents numerous cysts dispersed through the substance of the swelling, varying in size from that of a pin's head to that of a pigeon's egg: the appearance of these sections is precisely

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similar to that of a mamma under the same disease; and without using a microscope I do not think it would be possible to distinguish one from the other.

Neither constitutional nor local treatment seems to possess any power to arrest the progress of this affection, and nothing but its extirpation can relieve the patient: the operation may, however, be undertaken with confidence as to the result, for the disease does not become propagated by the absorbent system, nor is the patient liable to its return, as it is not malignant, and does not interfere with the general health. The last patient on whom I performed the operation of castration was suffering from this disease: he recovered without any bad symptom, and has never since experienced any tendency to its return either in the opposite testicle or truncated spermatic chord. It sometimes happens that the testicles, instead of descending into the scrotum, remain either in the loins or in the inguinal canals: under these circumstances they may still be attacked by any of the diseases to which they are obnoxious when in the scrotum; their abnormal position must, however, to a considerable extent obscure the diagnostic marks of such disease; and in consequence, also, of the small portion of the spermatic chord exposed to examination, it is very difficult to ascertain whether that structure is implicated. The absence of the testicle from the scrotum would indicate the nature of a swelling in the inguinal canal, especially as all the usual symptoms of disease of the testicle would be present, and therefore the extirpation of the organ would be as necessary here as when the testicle is in its natural situation.

Operation of castration.—The removal of the testicle from the scrotum is generally a very simple operation: it is performed in the following manner:—The pubes being shaved, the patient is placed on a table of convenient height, and the surgeon commences his operation by making an incision a little above the external abdominal ring, continuing it downwards through the skin, fascia spermatica externa, dartos and cremaster muscle: the operator next takes hold of the spermatic chord between the finger and thumb of the left hand, and having separated the vas deferens from the spermatic vessels, which may be easily done, from the peculiar whip-cord feel of the vas deferens, a needle armed with silk is passed under the spermatic vessels, and the ligature tied tightly around them. The chord is now divided below the ligature, and the sound testicle, together with the septum scroti, being drawn aside by an assistant, the surgeon with a few sweeps of the knife separates the diseased organ from the loose cellular tissue which connects it with the scrotum. It is recommended by some surgeons that instead of dissecting out the testicle it should be removed with the skin by one sweep of the knife, leaving only the sound half of the scrotum; but as this operation produces a much greater degree of mutilation it is seldom had recourse to, although it certainly possesses this advantage, that it removes the liability to the formation of matter in the loose skin left in the operation just described. My late colleague, Mr. Morgan, was the first to propose the excision of scrotum and testicle together.

When the testicle has been removed, the spermatic artery must be tied, and then the ligature placed round the vessels at the commencement of the operation may be withdrawn; this ligature is, however, of great service during the course of the operation, as when the chord was divided the ligature prevented its retraction into the inguinal canal. The artery of the vas deferens, as well as that of the septum scroti, should also be secured to prevent the liability to secondary hæmorrhage, and the consequent necessity for reopening the wound after the patient has become composed in bed; indeed, on account of this tendency to after-bleeding, the wound ought never to be closed until some hours after the operation.

To show the importance of the ligature round the spermatic vessels to prevent the retraction of the chord after division, I relate a case in which this precaution had not been taken, and in which a dangerous secondary hæmorrhage resulted. A military surgeon at Woolwich had removed the testicle of a marine, and on the division of the chord it retracted into the inguinal canal; the bloodvessels of the scrotum were secured, and the patient was placed in bed. An hour after, the surgeon was sent for, in consequence of severe bleeding having come on; he could, however, find no vessel to secure, and applied pressure and cold, which were, however, insufficient to check the bleeding. I was sent for, and upon examining the patient found that the blood issued from the external ring; I therefore proceeded at once to lay open the inguinal canal, and exposing the spermatic chord, secured its artery, which permanently prevented further hæmorrhage. I have also frequently found it necessary to reopen the wound after extirpation of the testicle, in consequence of the small artery of the septum of the scrotum not having been secured, as this vessel, notwithstanding its minuteness, cannot be safely left without a ligature. When the testicle remains with the inguinal canal, and from any circumstance requires extirpation, the operation is performed by cutting through the skin and imperfect fascia above Poupart's ligament in the direction of the long axis of the tumor, exposing the tendon of the external abdominal oblique, which must be divided: the inguinal canal is thus laid open, and the diseased testicle, covered by the fascia spermatica interna, may be seen. The cord must now be divided, and secured in the same manner as above; and the testicle removed, with similar precautions.

Wounding of the scrotum may sometimes render it necessary to tie the spermatic artery, in order to suppress the resulting hæmorrhage. The following is an instance of this kind:—A bargeman, aged 21, of intemperate habits, was brought into Guy's Hospital, in consequence of a severe injury to the scrotum. In jumping down into his barge, he fell upon the handle of a broom, which penetrated the scrotum, producing a deep lacerated wound, through which the testicle partly protruded. When brought into the hospital, the patient was in a state of collapse. His countenance blanched; the surface of his body cold; and his pulse scarcely to be felt. Hot water was ordered to be applied to his feet, and stimulants given to promote reaction. The circulation was no sooner re-established than a profuse hæmorrhage occurred, and upon examining to find the source of the bleeding, it was discovered that the spermatic artery was wounded. Upon returning the testicle, and examining the depth of the wound, it was found to extend about four inches upwards, to a space midway between the anterior and superior spinous process of the ileum and the umbilicus, where a hard substance could be felt. I immediately made an incision into this part, and, on cutting through the skin and superficial fascia, removed a large piece of his plush trowsers which had been driven into the wound. This man ultimately recovered, but slowly, owing to the extreme debility attendant upon the loss of a large quantity of blood.

Disease of the spermatic cord.—*Varicocele* is the term technically used to designate dilatation of the vein of the spermatic cord; but it is in fact equally applicable to express distension of the veins in any other part of the body. This disease is most frequent in the veins of the left spermatic chord,—a circumstance which arises partly from the more depending position of the left than the right testicle, and partly from the pressure of the sigmoid flexion of the colon retarding the flow of blood from the left spermatic to the emulgent vein. When the course of the blood through a vein is impeded from any cause, the vessel naturally becomes distended, and its valves are rendered incapable of performing their office of dividing the column of blood into numerous portions: the vein has consequently to resist the weight of a column of fluid equal in length to itself; and having to support an abnormal amount of pressure, it becomes distended, and, indeed, frequently inflamed. Nature remedies this defect, however, by rendering a vein in this condition tortuous in its course: thus compensating for the loss of valves by interrupting the length of the vertical column. In this state the disease is termed varix, which, as I have already remarked, may occur in any part of the body.

When this disease is seated in the veins of the spermatic chord, it may be distinguished by the peculiar feel of the swelling, which gives a sensation aptly compared by Sir Astley Cooper to that of grasping a bag of earth-worms.

The degree of distension of the veins varies at different periods, depending upon the length of time the person has been in the erect posture. On rising in the morning there is scarcely any abnormal enlargement to be found, but at night the swelling is the greatest, and the uneasiness arising in consequence most severe. Attending this disease, there is usually more or less pain in the course of the spermatic cord, and sometimes an irritable state of the testicle itself is induced by the altered nutrition of the organ, leading to the necessity of maintaining the recumbent posture for the relief of pain. At this stage of the disease the surgeon is generally consulted, and as the patient will state that he is the subject of a swelling in the groin, and probably complain also of a constipated state of the bowels, the first impression is very likely to be that he is suffering from hernia. Upon placing him in the position for examination, a tumor will be found in the seat of inguinal hernia,—by pressure this easily recedes, returning directly the pressure is removed. Upon coughing it dilates. All these are symptoms of hernia; but yet there are diagnostic marks so distinct, that no excuse can be made for mistaking one for the other: for instance, after the tumor has been pushed back, still maintaining the pressure, a hernial tumor cannot reappear, while the varicocele directly represents itself below the point of compression, as by the pressure you add to the difficulty of the passage of the refluent blood towards the heart. I have, I acknowledge, met with a difficulty in the diagnosis, when varicocele has been complicated with hydrocele of the chord, which being concomitant with a constipated state of the bowels, led me to consider the irreducible tumor as strangulated hernia, but the restoration to the natural function of the bowels by purgative remedies at once elucidated the nature of the case.

When the disease is found to be varicocele, the means to be adopted for its cure naturally become the subject for the surgeon's consideraton. If it be ascertained that constipation of the bowels, and a loaded condition of the sigmoid flexion of the colon, be the exciting causes, their removal would immediately suggest itself as the best means of relief; and neutral salts, with the administration of purgative enemata, enjoining at the same time the recumbent posture, with cold applications, and support to the scrotum, will be generally found effectual in removing the immediate congestion of the veins. To render this benefit permanent, gentle aperients should be used habitually, and the scrotum kept constantly supported by an elastic suspensory bandage. Where the disease is of a more obstinate character, these means will, however, be found insufficient, and different surgical operations have been recommended for the purpose of producing a radical cure, by the obliteration of the diseased veins; potassa fusa has been employed to produce sloughing of the skin, and such an inflammation in the veins as will produce their obliteration. By some, division of the veins has been had recourse to; and I, believe Sir Benj. Brodie has been in the habit of dividing them in this disease by means of a pair of very fine scissors passed beneath the skin, pressure being afterwards applied to prevent hæmorrhage. M. Ricord, of Paris, also recommends a subcutaneous operation, but instead of cutting the vein he employs a most ingenious arrangement of ligature to effect the obliteration of the vessel. To apply the ligature he passes a needle armed with a double thread through the skin, and beneath the vein, and a second needle with a similar ligature, inserting it into the opening by which the first had been brought out, passing it under the skin, but above the vein, and bringing it out by the opening through which the first needle and ligature had entered. The result of this operation will be, that from each opening a loop or two free ends are depending. If these ends on either side be now passed through the loops respectively, and then drawn tight, the vein will be included in a most effective ligature, which may easily be secured over a piece of quill or bougie to maintain the requisite pressure. If the inflammation resulting from the application of the ligature should be too great, the ligature may easily be removed merely by pulling at one free end on either side: the knot will then slip, and the threads may be readily withdrawn.

On two or three occasions I have punctured the distended veins in varicocele, particularly where there has been much pain; and in such cases I have not only succeeded in relieving the congested state of the vessels, and the consequent pain, but have found that the veins subjected to this treatment became obliterated, so that at first I believed I had effected a permanent cure by this operation. Further experience has, however, taught me that, although by this plan one vein may be obliterated, others become enlarged, and that in fact the relief is only temporary; and such, indeed, is the result of all operations hitherto attempted for the purpose of rendering these distended veins impervious to the blood.

These operations, although very simple in performance, are sometimes followed by most dangerous symptoms—phlebitis occasionally supervening; and numerous cases are on record of death from this cause. The operation should, therefore, never be undertaken without due preparation of the patient. Sir Astley Cooper recommended another form of operation, founding his method upon the rationale of the action of a suspensory bandage. He conceived that as in varicocele the scrotum is always much elongated, the veins became diseased in consequence of having lost their natural support; and he accordingly thought that if a large portion of the loose skin were removed, this support would be restored, and a permanent natural compress established. Sir Astley has published his views on this subject, in Guy's Hospital Reports, Vol. III. p. 1. I have tried this plan of treatment myself, and the following case shows with what result:—The patient was a young farmer from the Isle of Sheppey, who had been for more than two years suffering from a varicose state of the veins of the left spermatic chord. The whole scrotum was nearly double its natural size, and the diseased side was so pendulous as to reach at least one-third lower than the opposite. The slightest touch produced considerable pain both in the testicle and in the course of the spermatic chord; and, indeed, the symptoms were so urgent, that it was necessary to adopt some plan for the relief of the patient, who had been submitted to every description of constitutional treatment, without obtaining any benefit. I proposed in this case to excise a portion of the scrotum, in the manner recommended by Sir Astley Cooper. The patient consented to the operation, which was accordingly performed as follows:—He was placed in the recumbent posture on the foot of the bed, and the distended veins of the left spermatic chord emptied of their contents. The relaxed skin of the scrotum was then drawn up tightly between the fore and middle finger by an assistant, the testicle being at the same time pressed closely against the external ring with the back of the hand. With a few sweeps of the knife I removed the whole of the restricted skin, exposing the tunica vaginalis, which was now the only covering to the testicle. The edges of the skin were brought together and secured by suture, so as to form a close envelope to the testicle, and the parts were all well supported by adhesive plaster and bandages. A high degree of constitutional irritation followed the operation, and at one time the patient was in considerable danger; but he ultimately recovered, and I sent him to Sir Astley Cooper, that he might see the result of his new method of treatment. He wrote me, in return, the following note:—"The case of spermatocele you sent me is singularly gratifying to me; the operation has been more successful than in any instance in which I have myself performed it."

Notwithstanding the opinion thus expressed by Sir Astley, the benefit proved to be but a temporary one; for two years after, the patient again came to me, the disease having returned, rendering it necessary for him always to wear a suspensory bandage. In varicocele, one could scarcely believe that a truss could afford any relief, but that it would rather increase the disease. I have, however, found by experience that the application of what is called a "Mocmain" truss produces sometimes a very good effect. The advantage is perhaps attributable to the circumstance that the pressure prevents the column of blood above the truss from regurgitating into the spermatic veins; thus substituting to some extent the function of the venous valves. Sir Astley Cooper tried on dogs the effect of tying the spermatic artery, thinking that, by thus cutting off the chief supply of blood to the testicle, the veins might be relieved from the abnormal state of congestion; but the experiment produced sloughing of the testicle, and therefore it was never attempted in cases of varicocele.

The female is not wholly free from a disease similar to varicocele, as the veins of the round ligament of the uterus are subject to dilatation. In the female, however, the disease is not by any means so obstinate as in the male: the swelling is chiefly seated in the labium pudendi, and is much more under the control and management of the surgeon: it might, however, as in the male subject, be mistaken for hernia.

HYDROCELE.

Of the diseases affecting the coverings of the testicle and chord, hydrocele is the most frequent: it is, indeed, as its name would imply, an inordinate secretion of the natural fluid of a serous membrane, and is similar to the effusions that are met with in the arachnoid, the pleura, the pericardium, and the peritoneum, which effusions constitute formidable diseases in the cavities to which those membranes belong.

The tunica vaginalis is a prolongation of the peritoneum, being brought down into the scrotum by the descent of the testicle. At first this serous cavity communicates with the great cavity of the peritoneum itself; but soon after the testicle has arrived at its ultimate destination in the scrotum, an adhesion takes place between the two surfaces at the abdominal rings, and the tunica vaginalis then constitutes a distinct serous bag. Occasionally this membrane becomes inflamed, either from blows or some other exciting cause, and in the acute stage it may require antiphlogistic remedies similar to those employed for the treatment of simple orchitis, by which means the inflammation will very generally be subdued, and terminate by what is called resolution. It may happen, however, that, although the acute symptoms are relieved, a chronic inflammation may remain, leading to the secretion of an abnormal quantity of fluid in the interior of the sac; and this condition constitutes the disease termed *hydrocele*. Such distinct inflammatory action may not, however, constitute the premonitory signs of the formation of hydrocele, and the collection of fluid very frequently takes place insidiously, unaccompanied by any symptoms excepting enlargement. Under these circumstances, it is supposed that the defect occurs in the diminished power of the absorbents to act in unison with the capillaries; so that an accumulation takes place, from the equilibrium of power being lost between the arteries and absorbents.

The disease occurs at all periods between infancy and old age, and is, indeed, sometimes congenital; and again, although there may not be at birth the presence of fluid within the tunica vaginalis so as to constitute hydrocele, a permanent communication between the tunica vaginalis and peritoneum may remain, rendering the individual liable at any time of his life to hydrocele, which, under these circumstances, must be still regarded as congenital.

Varieties of hydrocele.—Hydrocele is not always, however, so simple a disease, but appears under various forms: for instance, you may have simple hydrocele of the tunica vaginalis of the testicle, or it may extend along the spermatic chord into the peritoneal cavity, constituting *congenital hydrocele*; another variety, termed *encysted hydrocele*, may arise in connection with the testicle itself: in this case, the accumulation of fluid is not within, but external to, the tunica vaginalis.

The simple hydrocele of the tunica vaginalis may be converted into two or more distinct tumors by the sac being divided by adhesive septa; and I have myself been obliged to make two punctures to evacuate the distinct sacs. A further variety may also occur from on unusual position of the testicle, which organ is commonly placed behind, and about the centre of the swelling. The liability to such varieties points out the necessity for investigation in every case before the surgeon proceeds to evacuate the fluid. Hydrocele of the spermatic chord may also form, either below the external ring, or between the two rings in the inguinal canal, and this may lead to considerable difficulty in the diagnosis. Moreover, any of these varieties of hydrocele may be complicated with hernia, diseased testicle, varicocele, or other diseases, which may render a just estimation of the complaint extremely difficult.

Diagnosis. — Simple hydrocele of the tunica vaginalis of the testicle constitutes a pyramidal swelling, somewhat elastic to the feel, and presenting a uniform smooth surface. The patient states that the swelling commenced at the lower part of the scrotum, and gradually increased upwards, usually unattended by pain. The chord is found quite healthy above, and not in any way implicated in the swelling, which it merely suspends. On examining the back part of the tumor, and producing pressure, the peculiar painful sensation produced by squeezing the testicle is experienced by the patient. Upon desiring him to cough, the swelling does not dilate. All these are signs of a hydrocele; but the chief characteristic has yet to be mentioned, viz. transparency of the tumor. This is best seen by taking the patient into a very dark closet, and by holding the tumor between the eye and a strong light, when the transparency, if it exists, becomes quite obvious, and from the opacity of the testicle its position is also easily discovered. Transparency, however, is not always to be found as a characteristic mark of hydrocele; for the nature of the fluid, thickening of the tunica vaginalis, or œdema of the scrotum, may either of them interfere with this diagnostic proof; and the surgeon, under those circumstances, must form his diagnosis from the history of the case, and from the presence of the other distinguishing symptoms; and, should there be any difficulty in making up the mind as to the true nature of the case, a small puncture may be made, which will at once remove all doubt, by the free escape of serum, if hydrocele exists. It is true that in œdema of the scrotum, serum would flow from such a puncture, but merely a drop; and in that disease, the form of the swelling, the history of the case, and the general anasarcous tendency in the patient, would preclude the possibility of confounding the two diseases.

Cure of hydrocele.—In young children, the cure of simple hydrocele, if not spontaneously produced, may generally be effected by local applications; and I have frequently produced absorption of the fluid by the use of the following lotion:—℞ Amm. Hydrochlor. ʒj.; Liq. Am. Acet., Sp. Vini. Rect. aa. ℥ij.; Aqua Destil. ℥iv. M. Ft. lotio sæpe applicand.

Should this treatment not succeed, acupuncturation is almost infallible in children. In later periods of life, hydrocele sometimes undergoes a spontaneous cure, from a blow or any cause which induces inflammation, or from a rupture of the tunic attended by diffusion of the fluid; and I think I have also known it result from an altered action being established without the tunica vaginalis being torn. A gentleman consulted me who had been the subject of hydrocele for two years, and had twice submitted to evacuation of the fluid by surgical operation. The fluid had, however, again accumulated; but on the day before he applied to me he had run against a post and struck the scrotum; this had produced considerable inflammation, but no sign of the bursting of the tunica vaginalis. I ordered antiphlogistic remedies, and that he should remain in a recumbent posture; this led not only to the relief of the inflammatory action, but to my great surprise the fluid became absorbed, and the hydrocele was permanently cured.

If a surgical operation be requisite, incision, excision, application of potassa fusa, seton, tapping, or injection, are all at the choice of the surgeon: the two latter are the means which are now generally adopted, but as they do not always succeed, the other means are occasionally had recourse to. Incision was the operation employed by John Hunter: it was performed in the following manner:—He made an incision into the tunica vaginalis, allowing the fluid to escape, and then, sprinkling flour on the surface of the tunic to excite inflammation, the membranous sac filled up by granulation. This operation, however, so frequently led to sloughing, that Mr. Pott repudiated it, and substituted that of injection, which is now almost always employed. In those cases, however, in which there is a great difficulty in forming a diagnosis, incision is a most safe mode of proceeding, provided no further means be employed to produce inflammation of the tunica vaginalis. In June 1839, I admitted a patient, aged 64, into Stephen's Ward, Guy's Hospital, who was the subject of a large scrotal tumor, which had formed so rapidly that I doubted whether it was hydrocele or hæmatocele; this doubt was strengthened by the perfect opacity of the tumor, and I proceeded therefore to open the tunic by way of exploration: a pint of brownish serum was evacuated, and I found the tunica vaginalis extremely thickened, in some parts cartilaginous, and at its upper portion ossified: the patient was, however, perfectly cured by this simple operation. My colleague, Mr. Cock, also treated a similar case by incision, but in that instance the whole cartilaginous tunic was thrown off by a sloughing process; but the patient also recovered. I have myself had several cases in which I have adopted simple incision as the mode of treatment. I have selected the following, in addition to that already described:—

John King, æt. 50, was admitted in Feb. into Stephen's Ward: he was a temperate man, and in excellent health. About three years ago he received a blow upon the scrotum, which shortly after began to swell, but did not occasion much inconvenience until two years after the accident, when in getting over a stile he again struck the scrotum, and suffered severe pain for three weeks. Since that time the part has increased in size with great rapidity, and when admitted into the hospital he was found to have hydrocele on the right side. He was tapped, and 12 ounces of serum, mixed with some blood, drawn off. After the operation slight febrile excitement ensued: this, however, subsided, but the fluid reaccumulated. An incision an inch and a half in length was now made, to evacuate the fluid; the tunica vaginalis soon filled with granulations, and he was presented in June, perfectly cured. In Sir Astley Cooper's note-book, I find the following memoranda: "I operated on a gentleman for hydrocele, from Barbadoes, by incision, in whom the tunica vaginalis was converted into a distinct cartilaginous bag, and divided into different cavities, some containing a glairy fluid, and others purulent matter: the cavity granulated, and the patient perfectly recovered."

"Mr. Foster, at Guy's Hospital, admitted a patient with a large opake fluctuating swelling of the scrotum, which had resulted from a blow, and was attended with ecchymosis. He operated by incision, and a large quantity of extravasated blood was found in the tunic: the patient recovered." Mr. Forster had evidently considered this case a hæmatocele, and not a hydrocele, and properly treated it. "Mr. Chandler performed the operation for the cure of hydrocele by incision, and the introduction of lint dipped in oil—a usual practice at that time: a high degree of constitutional irritation was set up, and the patient died."

"A patient on whom Dr. Warren operated by incision and introduction of foreign matter into the urine, for the cure of hydrocele, was afterwards seized with a violent attack of irritative fever, and died in consequence."

From these cases, therefore, it would appear that the operation by incision, for the cure of hydrocele, is not to be considered as a safe mode of proceeding, or at any rate, not with the introduction of any foreign substance into the tunica vaginalis to ensure inflammation as a preventive to the recurrence of the effusion. Simple incision, I am sure, however, may be safely adopted in such cases as offer a difficulty in ascertaining the precise nature of the disease.

The operation by excision has been had recourse to by some surgeons, in consequence of its having been found that the incision alone, without the introduction of some substance into the tunica vaginalis, was often insufficient to produce that degree of inflammation necessary to the permanent cure of the disease. The mode of operating by excision is to cut down upon the distended tunic, puncture it with a lancet, and then drawing out a portion of the flaccid sac with a tenaculum, to snip it off. This operation was recommended by Mr. Kinder Wood, as a modification of the older method of excision, which consisted in removing the whole of the tunica vaginalis; but both methods have for years been abandoned, as being highly dangerous from the degree of inflammation excited.

Operation by caustic was adopted at one time, potassa fusa being the escharotic employed. It was applied to the scrotum, and a slough being thrown off, and the tunica vaginalis exposed, it was then applied to that tissue until it penetrated and evacuated the fluid. This mode of treatment is equally tedious and severe, and has long since given way to safer and more certain modes of treatment.

The following case, from Sir Astley Cooper's note-book, will prove that it was not always successful, even if it did not produce injurious effects:—

"Mr. Allen, Chemical Lecturer at Guy's, sent me a gentleman with hydrocele, whom Mr. Vance had attempted to cure with caustic, and although the patient had suffered much from its application, the disease returned. I injected this case with a solution of sulphate of zinc, and the patient was cured."

The second case, however, shews the danger of employing caustic:—

"Mr. Cline applied caustic in a case of hydrocele in an elderly gentleman, and in about ten days afterwards, when the inflammation was at its height, the patient died from the consequent irritative fever."

"I (says Sir Astley Cooper) "lost two patients myself from submitting them to this mode of operation for hydrocele, and then thought it high time to give it up, and to adopt some safer method."

Operation by seton.—Mr. Pott frequently performed this operation, and seemed for some time to prefer it to every other, until indeed he substituted injection for it. I have myself, upon a few occasions, employed a seton in hydrocele, but have met with such alarming symptoms resulting from its use, that I have entirely laid it aside. The following cases will be sufficient, I think, to prove the danger:—Mr. Courtney, of Great Marlborough Street, some years ago took me to see a patient who had three times submitted to the injection of a hydrocele, and which had proved ineffectual. I determined, therefore, upon the use of the seton, and inserted it in the following manner:—Having drawn off the fluid in the usual way with the trocar and canula, I passed a long needle, armed with a strong double silk, through the canula. I thrust the needle out through the tunica vaginalis and skin, at the upper part of the scrotum. Eight hours after the operation, but little inconvenience had been experienced, and therefore the seton was allowed to remain. Next morning the inflammation was not beyond the desired extent, but being considered quite sufficient, the silk was removed. In the evening the patient complained of great pain: the scrotum was considerably swelled and inflamed; the countenance anxious, and the pulse full and hard. Twenty leeches, and fomentations, were applied to the parts, and calomel and opium, with saline effervescent draughts, prescribed. The next morning I found my patient had been delirious all night; swelling of the scrotum much increased, and it was dark coloured and ecchymosed; pulse 130; bowels freely opened. I made incisions into the swelling, and ordered port wine; poultice to be applied; to continue calomel and opium, and to take a mixture, consisting of ammonia and bark; a free use of porter, or brandy and water, also to be permitted. The next day the whole scrotum was in a state of slough; the delirium had left the patient; his pulse was only 100; and from that time he gradually improved, and ultimately got quite well.

In 1833 I admitted a patient into Job's Ward, who had been the subject of hydrocele for many years: he had three times had it injected, but without benefit. I passed a seton in the same manner as described in the last case. Violent constitutional symptoms supervened, which ended in suppuration, and immediately the formation of matter was indicated by severe shiverings. I laid the tunica vaginalis open, and my patient ultimately recovered, but not without having undergone imminent danger of his life.

The following is a case in which abscess, as well as very urgent symptoms, supervened upon the application of a seton:—Henry Cox, æt. 32, was taken into Naaman's Ward, December 1836, with hydrocele on the right side: the swelling was about the size of a large pear. A seton was passed into the base of the tumor (without drawing off the fluid): the patient went on well for two days, when the part became very painful, much swollen, with quick pulse, hot skin, and parched tongue: in consequence of these symptoms, the seton was withdrawn. Nevertheless, the pain in the scrotum continued, and was followed by rigors, until a large abscess formed: a considerable quantity of matter was evacuated, the rigors ceased, and the symptoms of fever also subsided. About three weeks after the operation, the patient was again seized with severe pain in the part, which became again swollen and extremely tender; but by leeches and medical treatment the symptoms were once more subdued, and he continued going on well for another fortnight, when matter began again to collect at the upper and posterior portion of the scrotum: it was evacuated by a free opening; but as the walls of the abscess continued very hard, and discharged a thick purulent fluid, he was placed under salivation: from that time he gradually improved, and in three weeks he was presented cured.

M. Ricord modifies the application of the seton by passing two, and employing them at the same time as sutures, in the following manner:—He first passes a long needle, armed with a double silk, horizontally through the tunica vaginalis, at the point of junction of the upper with the middle third of the tumor, and a second needle, armed in the same manner, at the junction of the middle with the lower third of the scrotum: he then draws off the fluid with a trocar, between the ligatures, and having emptied the sac, passes a piece of bougie or quill vertically through the loops of the double ligature on one side, and ties their free ends over a similarly placed piece of bougie on the opposite side of the scrotum, drawing the ligature tight; thus bringing a large surface of the tunica vaginalis of each side of the sac in close contact with each other. From the violent effects produced by the common seton, I should certainly much fear the application of this more complicated mode of proceeding; but I have heard a surgeon who has seen M. Ricord apply it, say that it answers remarkably well, and that he never witnessed any bad symptoms resulting from its use. I would not, however, venture on the experiment without further evidence of its safety.

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 22d February, 1849. — James Williams, Holywell, Flintshire — Richard Wilson, Poulton-le-Fylde—Thomas Henry Newsam, Leeds.

ROYAL COLLEGE OF SURGEONS.

The following gentlemen were admitted members of the College on Friday, Feb. 23, 1849:—H. Chawner—J. Nash—S. J. A. Palmer—G. F. Ree—T. Mather—J. W. W. James—E. G. Goulden—C. J. Bennetts—F. H. Orris—G. Betts.

Original Communications.

ON THE MODE OF USING A

CHEST-MEASURER,

TO ASCERTAIN THE MOVEMENTS OF RESPIRATION IN DISEASE, AND ON THE INDICATIONS IT AFFORDS.

By Francis Sibson, M.D.

1. *Mode of using the Chest-measurer.*
2. *Indications afforded by it in health, and—*
3. *in disease.*

Some years since, with the aid of a patient, and, finally, of Mr. Symmons, I constructed the Chest-Measurer—an instrument for ascertaining with minute accuracy the modifications of the movements of respiration induced by, and often indicating, disease. In a paper on the Movements of Respiration in Disease, in the last volume of the Medico-Chirurgical Transactions, I have given numerous observations made by aid of the chest-measurer, with the view of ascertaining how far different diseases modify the respiratory movements. To that paper I beg to refer. Several of my friends having asked me how to use the chest-measurer, I intend here to state concisely, aided by the graphic delineations of Mr. Linton, the mode of using the instrument, and what indications it affords in health and disease. I may as well state, in the outset, that although the instrument can indicate whether the respiratory movements, and consequently the chest, be healthy or not, and can almost always point to that part of the chest which is diseased, yet it has no pretension to tell the nature of the disease: it does not supersede, but it is a supplement to, and assists, the other methods of inquiry, It need scarcely be said that, as with the stethoscope, so with the chest-measurer, the method of using the instrument, and the indications afforded by it, can only be known by instruction, close observation, and practice.

1. *Mode of employing the chest-measurer.*

The instrument must be put together in the manner represented in Fig. 1.

It may be applied to the patient either in the lying, sitting, or standing posture.

The mode of applying the instrument to a patient when *lying*, is shewn in Fig. 2.

The back of the patient, just behind the lower angle of the scapula, rests upon and steadies the instrument. From this point, as from a centre, all the observations on that side, and some of those on the opposite side, may be made without shifting the base of the instrument or disturbing the patient.

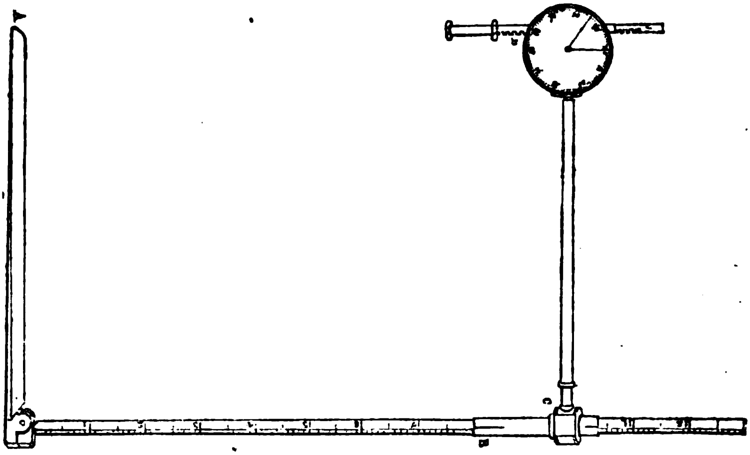
It is very important to hold the instrument steadily: this is easily and perfectly accomplished by bearing the upright rod firmly backwards upon the hinge by the hand at the slide B C, the finger and thumb commanding the rotating rod, C D, which carries the dial and rack, D. The instrument can thus be easily manipulated by the right hand, which can raise or lower the slide, B C, and turn it on the upright rod, so that the rack may be applied first to one part of the chest and abdomen, and then to another. The finger and thumb must so adjust the rotating and elongating rod, C D, that the rack, shall always be exactly at right angles to the part of the body the motion of which is being observed. The other hand is at liberty, and can feel for the ribs, so that the rack may be applied exactly over the part to be examined, and at corresponding parts on both sides.

The mind should be clearly made up as to the best positions at which to apply the instrument, so as to make as complete and rapid a survey of the chest as possible. I think the points, the motion at each of which is numbered in Fig. 3, will be found best fitted for ascertaining the amount of the whole respiratory movements; and the following are the order and positions in which I suggest the successive applications of the instrument:—

Before applying the chest-measurer, observe closely and carefully the configuration of the chest, and ascertain the boundaries of the internal organs, and the position of the heart's impulse. Make the successive observations first at the centre, and then at the sides, from above downwards, in the following order:—

1st Set of Observations. — At the centre of the sternum, just between the 2nd costal cartilages, and then over

Fig. 1.



The Chest-measurer.

A. Brass plate, covered with silk, on which the patient lies (see Fig. 2).

B. Upright rod, divided into inches and tenths, to indicate, by the slide at B, the diameter of the chest.

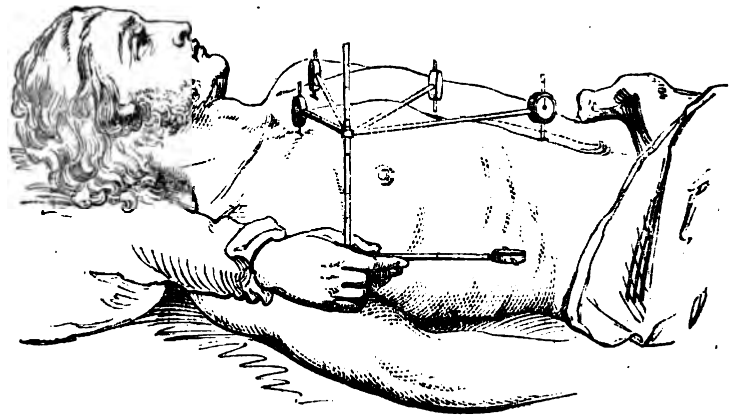
B. B. Slide, moving on the vertical rod B, and carrying the horizontal rod and dial C. D.

C. D. E. Horizontal rod, dial (D), and rack (E). This rod can be drawn out like a telescope from C—an outer rod sliding on an inner; and as the outer rod can be rotated on the inner, the inclination of the rack and dial can be varied at will, by the finger and thumb. This combination of slides forms a universal joint (see Fig. 2.)

D. Rack and dial. The rack, when raised by the moving walls of the chest, moves, by means of a pinion, the index on the dial. One revolution of the index indicates an inch of motion in the chest; each division indicates the 1000th part of an inch.

The chest-measurer packs into a pocket case.

Fig. 2.



Mode of applying the Chest-measurer.

By placing the instrument in the manner here represented, the patient lying on the flat plate forming the basis of the instrument (see Fig. 1), the rack and dial, by a little adjustment, can be successively applied over the various parts of the chest and abdomen, without disturbing the patient.

the right and left 2nd ribs. (By elongating the rod C D, these observations can be made one immediately after another, the base of the instrument being fixed on one side. It is important to take the symmetrical observations of opposite sides as rapidly as possible one after another, without disturbing the patient, so that the depth of the respirations may be as nearly as possible alike). By these three observations the amount of expansion of both upper lobes is ascertained, and it is thus at once seen whether the amount of expansion is alike in both upper lobes (thoracic ribs, 1st to 5th).

2d Set of Observations.—The lower end of the sternum (comparing this with a renewed observation of the upper end of the sternum); the right and left 5th costal cartilages, close to their respective junction with the rib. These observations being made over the heart and the middle lobe of the right lung, indicate the amount of expansion over those parts. I need scarcely here insist on the value of an exact knowlege of the position of the viscera in relation to each other, and to the parietes immediately superficial to them, during both ordinary respiration and a deep inspiration, in the healthy person, and in the patient under observation. Without this information, scientific precision can only be replaced by conjecture.

3d Set of Observations.—(In these and the following observations, the instrument must be applied first on one side and then on the other).—Over the right and left 6th ribs to each side. These are not indicated on the figure, and are not always needful. They shew the expansion of the upper part of the lower lobe, and, during a deep inspiration, of the lower part of the upper lobe (intermediate ribs, 6th to 8th).

4th Set of Observations.—Over the right and left 10th ribs to each side. These indicate the expansion of the lower portion of the lower lobe, and the descent of the diaphragm (diaphragmatic ribs, 9th to 12th).

5th Set of Observations.—Over the centre of the abdomen, and the right and left sides of the abdomen, just below the costal cartilages, and outside the recti muscles. These indicate the descent of the diaphragm—pushing downwards and forwards the abdominal viscera, and lengthening and expanding downwards the thoracic. The motion of the centre of the abdomen indicates the descent of the central tendon; that of the right and left sides, the descent of the right and left crura of the diaphragm.

All these observations should be taken as soon after each other as is consistent with accuracy, when the patient is breathing tranquilly and involuntarily. The patient ought not to be desired to take a deep breath or to speak, or to be otherwise disturbed until they are all taken. It is important that, during these and all subsequent observations, the patient should be desired to look at the ceiling, in order to keep his eye off the dial; if he catches sight of the movements of the index on the dial caused by his own respiration, the respiration is immediately disturbed by the attention being directed to the respiratory movements.

While these observations are being made, the *rhythm of respiration*, the relative duration of inspiration and expiration, ought to be observed. An accurate and easy plan of ascertaining the rhythm, is to beat time very rapidly with the fore-finger, and to count the number of beats, first during inspiration and then during expiration.

After the whole series of observations of involuntary respiration have been made, the patient ought to be desired to take as deep a breath, and then to breathe out as far as he can without annoyance, the medical man showing him how; (it is so much easier to imitate an example, than to follow an instruction; by a little attention to this point, the most nervous patient will do exactly what is wished). A fresh series of observations must now be made during the forced expiration, over the same points at which the involuntary respirations were noticed. The successive deep inspirations and forced expirations ought as nearly as possible to be of the same extent. Care must be taken not to distress the patient by causing him to inspire too deeply, or to repeat the deep inspirations too rapidly or too frequently.

These observations ought to be taken in a warm room; the shirt or flannel waistcoat ought not to be removed, and only that portion of the chest ought to be exposed which is immediately under observation. It is convenient to cover the neighbouring parts with a piece of flannel. It is well, before commencing the observations, to let the patient see the instrument placed on the medical man's own chest, or to allow him to lift the rack with his finger, so that he (or she) may feel assured of its harmlessness. If the patient is rendered nervous or is excited, the observations cannot be properly made. With a very little precaution no difficulty will be felt on this score.

The mode of applying the instrument to a patient when *sitting and leaning back* in his chair, is exactly the same as when he is lying, only instead of lying upon, he leans against, and so steadies the plate A., which forms the base of the instrument.

When the patient is *sitting upright* or *standing*, the instrument must be entirely steadied by the medical man: this is easily and accurately done by holding the plate A, which forms the base of the instrument, with one hand, while, with the other at the slide B C he bears the upright rod backwards upon the hinge, and commands with the finger and thumb the rotary rod C D, carrying the dial. This may also be easily accomplished with one hand, by hooking forward the horizontal plate A against the back of the patient, by the hand which commands the slide B C.

We cannot always make the whole of the observations detailed above, and it is, indeed, seldom necessary. If phthisis, for instance, be dreaded, the upper part of the chest ought to be carefully examined, if pneumonia or pleuritis, the lower. It is usually easy to examine the upper part of the chest in females without removing the dress; and the motions of the lower part of the chest and the abdomen can generally be observed by applying the instrument over the dress.

2. Indications afforded by the chest-measurer (movements of respiration) in *health.*

The numbers here given, indicating the respiratory movements, denote so many 100ths of an inch, or, which is the same thing, so many subdivisions on the dial. A movement, for instance, of $\frac{13}{100}$ths of an inch is marked 13,—and one of 1 inch is marked 100.

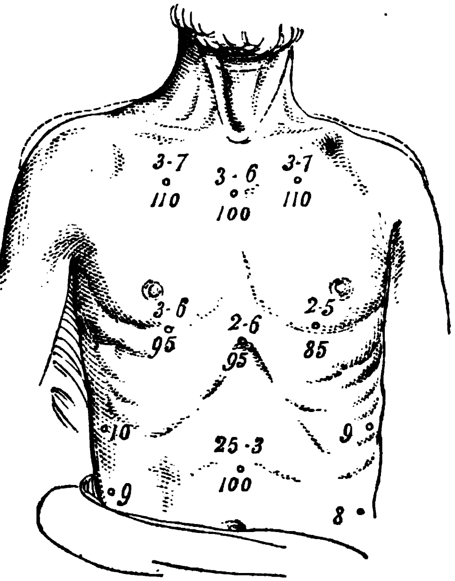
Average movements of respiration in the healthy male, from the age of 10 to that of 50. See Fig. 3.

		Involuntary tranquil respiration.	Voluntary forced respiration about.
Centre of sternum between 2nd costal cartilages		3 to 6	100
2nd rib near the costal cartilage	right	3 „ 7	110
	left	3 „ 7	110
Lower end of sternum		2 „ 6	95
5th Costal cartilages near the rib	right	3 „ 6	95
	left	2 „ 5	85
6th Rib at the side	right	5	70
	left	3	60
10th Rib	right	10	65
	left	9	60
Abdomen	centre boy	25	90
	centre man	25 to 30	100
	right	9	
	left	8	

The extent to which the chest can be expanded in health, during the deepest possible inspiration, is very different in different persons. Some, for instance, can cause the second rib to advance two and a quarter inches during forced inspiration, while others can only cause it to advance three quarters of an inch.

It may be noticed that the movements of the whole front of the chest are pretty nearly equal; of the ribs at the side, somewhat less than equal to those in front; but those of the tenth ribs are, during tranquil respiration, nearly twice as great as those of the anterior part of the chest; while, during forced respiration, they are considerably less. The motion of the tenth (diaphragmatic) ribs indicates, it will be remembered, the motion of the diaphragm.

Fig. 3.



Health.

Points to which the chest-measurer may be most advantageously applied, and average amount of motion, in 100ths of an inch, at each of those points, during both ordinary and forced respiration.

The motion of the whole left side, excepting the second rib, is somewhat less than that of the right side.

The above is the usual and the most healthy average; but in many persons whose chests are healthy,—some of whom are quite well, whilst others are out of health in other respects,—the movement over the whole chest, instead of varying from two to six, is about ten. In these persons the motion of the diaphragmatic ribs (tenth) is not increased.

The respiratory movements in the healthy female, at the age of twelve, do not differ materially from those of the healthy male at the same age.

In the adult, the stays, and possibly the natural conformation, modify the respiratory movements. *When the stays are on*, the thoracic movement is exaggerated, while the lower thoracic and the abdominal movement is diminished, the second ribs moving forward from 5 to 20, the abdomen 6 to 11; *but when the stays are off*, the second ribs move forward from 3 to 10, and the abdomen moves forward 8 to 20. During a deep inspiration, the abdomen at the waist moves forward — with the stays on, about 10; off, 15 to 40.

Respiratory movements in the infant.—The thoracic movements are considerable, being from 2 to 12; while the abdominal movements are from 8 to 20. The lower end of the sternum, and the adjoining cartilages and ribs, instead of advancing, usually or often fall in during inspiration, especially during quick, sobbing inspirations.

I ought to state that the healthy respiratory movements of both females and children stand in need of additional observations.

The rhythm of respiration in health.—During tranquil breathing, in adult males, inspiration and expiration are equal, frequently inspiration is to expiration as 6 to 7; in women and children, 6 to 8 or 9—if breathing be hurried, 6 to 10 or 12; in old age, 6 to 8 or 9.

3. Indications afforded by the chest-measurer when the respiratory movements are *abnormal*:—

In nearly all these cases, if the respiratory movements are restrained at one part, they are exaggerated elsewhere.

Cases in which the respiratory movements of both sides are disturbed, the organs of the chest being healthy:—

In *posterior curvature of the spine*, at the sixth dorsal vertebra. The respiratory motion of the ribs above the curvature is restrained, while that of the ribs below it, and of the abdomen (diaphragm) is exaggerated.

In *peritonitis*. The respiratory motion of the abdomen is much restrained,—in severe cases almost annihilated; and, to compensate for the diminished abdominal movement, thoracic respiration is very much exaggerated; great and heaving movements of the upper ribs being one of the marked characteristics of the disease.

In acute peritonitis, the patient can scarcely add to the respiratory movement by forced respiration—indeed, every respiration is forced.

The expiration is sometimes shorter than the inspiration.

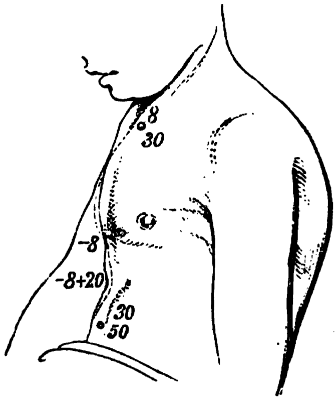
Cases in which the respiratory movements of both sides are disturbed by diseases of the chest:—

In extreme cases of *laryngitis*, *croup*, and diseases where there is great obstruction to respiration in the larger air passages, the abdominal movements are not increased, but the respiratory efforts are laborious, and the costal walls, especially at their lower part, instead of advancing, actually fall in during respiration. The duration of the expiration is increased, it being slow and equally slow throughout.

In vesicular emphysema and bronchitis, the obstruction to respiration being in the smaller bronchial tubes, the inspiratory efforts are all excessive and laborious: the abdominal movement is not, though that of the upper part of the chest is, increased, but the motion of the lower part of the chest is actually reversed. (See Fig. 4.)

The expiration is prolonged, being often twice as long as the inspiration: it is quick at first, then slow, and becomes gradually slower towards the end.

FIG. 4.



Vesicular Emphysema and Bronchitis.

The respiratory efforts laborious, the involuntary respiratory motion of the abdomen and upper part of the chest is not materially modified; while that of the lower end of the sternum, and the adjoining part, is absolutely reversed, falling backwards during inspiration, and protruding during expiration.

Cases in which the motion of the ribs on one side is restrained, the chest being healthy:—

Lateral curvature of the spine.—If the convexity be to the right, the ribs on the left side are restrained in movement, while those of the right side are exaggerated.

Injuries or diseases of the ribs, or of the parts contiguous, if the movements of the ribs in question cause pain or mischief.

Cases in which the respiratory movement of the whole of one side is restrained from chest disease, that of the opposite side being exaggerated:—

Universal *pleuritis*—pleuritic effusion.

Pneumonia of the whole lung.

Phthisis of the whole lung. In some of these cases the respiration is not exaggerated anywhere.

Cases of the same class, the motion of the ribs over the upper lobe being restrained:—

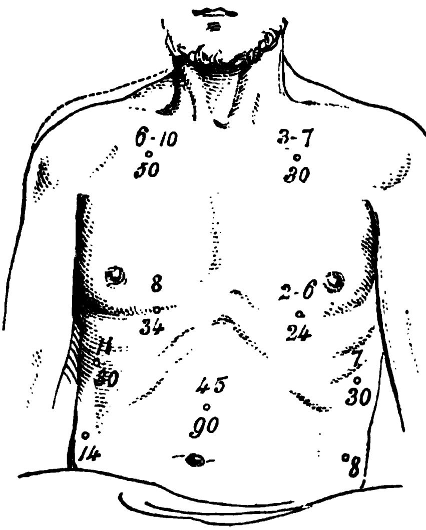
Phthisis (See Fig. 5).

Pneumonia of the upper lobe.

Cases of the same class, the motion of the lower ribs and of the diaphragm on one side being restrained:—

Pneumonia, or other disease of the lower lobe.

FIG. 5.



Phthisis.

Large cavity in the left upper lobe, over which region the respiratory movement is materially restrained.

Cases in which the motion of the central tendon of the diaphragm is restrained, while that of the crura of the diaphragm is not so materially affected.

In cases of *pericarditis*, especially if the pericardium lining the central tendon of the diaphragm be affected, the inspiratory protrusion of the walls of the abdomen at the centre, between the xyphoid cartilage and the umbilicus, is very much diminished, sometimes, indeed, arrested, but the motion of the abdomen to each side is comparatively only slightly affected.

The above instances will illustrate the principle on which the observation of the movements of respiration (whether with or without the aid of the chest-measurer) operates in aiding the formation of an accurate diagnosis.

If we find the respiratory function of the chest arrested or restrained at any part, to that part our attention is directed, and there we shall almost certainly discover the disease, and by other diagnostic aids detect its nature.

There are many cases in which the respiratory movements can be observed with sufficient accuracy without the aid of the chest-measurer; and there are many practised and able physicians who can almost always detect any disturbance in the respiratory movements by the scientific use of their unaided senses.

15, Lower Brook Street,
Feb. 15, 1849.

ON THE

CURE OF EPILEPSY BY THE EXPRESSED JUICE OF THE COTYLEDON UMBILLICUS.

BY THOMAS SALTER, F.L.S. F.R.C.S.
Fellow of the Royal Medical and Chirurgical Society.

FOR a disease so obscure and intractable, and hitherto so little amenable to treatment, as epilepsy, no apology is required for suggesting a new remedy, even though that remedy may not be sustained by any great weight of testimony to recommend its employment. I never thought it an illusion to suppose that an agent might some day be discovered, to whose influence this distressing malady might yield.

The pathology of the disease, so far as it is understood, may be said to encourage the hope that this will be the case. Independently of those occasional attacks of sympathetic epilepsy, universally allowed to be functional, there are reasons for believing that many of the more serious cases, which end in, incurable disease, are in their commencement functional also, but arising from some peculiar temporary condition of the nervous centres, and belong to that division of the nervous disorder which has aptly been called centric.

If epilepsy is ever to be successfully combated, it is reasonable to suppose that the greatest chance of success will be afforded, ere repeated attacks, arising from the peculiar state of the nervous centres alluded to, have produced those organic changes so commonly the result of a long continuance of the malady. For epilepsy, associated with some of these organic lesions, it would be chimerical to imagine that a remedy will ever be found; and it is with no overweening confidence that I venture to direct the attention of the profession to the one employed in the case I am now about to relate, but which is confidently believed by a patient and relative of my own, to have been the means of her restoration to health. This remedy is the expressed juice of the Cotyledon umbillicus.

Should your numerous readers think it worth while to make a trial of it, they may be assured that it will do their patients no harm, and the mere possibility of good accruing from its employment in a malady for the most part hitherto so hopeless, will, I have no doubt, with many be a sufficient incentive to induce them to put it to the test of experiment.

Miss G———, the lady whose case is here referred to, is now 28 years of age. She was attacked with epilepsy, when on a visit to a relative in town, about fourteen years since. Her parents were both healthy persons, and it is not known that any member of either family suffered from the disease. She is of middle stature, fair complexion, somewhat stoutly made, and previous to her illness was of a lively and cheerful disposition, and in the uniform enjoyment of good health.

The relative with whom she was staying being an eminent metropolitan surgeon, she had every advantage that medical skill and experience could afford her. Then, and subsequently, physicians of the highest character have been consulted on her case, and various modes of treatment have at different times been put in force, but all alike failing to produce any good result. The paroxysms continued to return at intervals, varying but little, from a month to six weeks, (but they occasionally occurred at the intervals of a week or fortnight) for a period of twelve years. At the end of this time she was strongly urged to try as a remedy the Cotyledon umbillicus, by a person who stated that it had proved a cure in several similar instances of disease. Accordingly, two teaspoonfuls of the expressed juice were taken two or three times in the day, and this treatment has been persevered in up to the present time, during those seasons of the year in which the plant could be procured, from early in the spring till late in the autumn. From the time the patient commenced the use of this remedy she has had no return of the disease, (though up to that time it had continued with undiminished violence), not a single paroxysm having since taken place; and with the loss of the fits, every vestige of disease, both physical and moral, has disappeared. If this remarkable effect can fairly be ascribed to the means employed, it would be impossible to find stronger testimony for the use of any medicine whatever. There are no reasons for supposing that the happy change in the patient's circumstances was brought about by any other agency; her habits and mode of living were previously fixed, and no change was made in them at this time; they were always remarkably regular and uniform, and have gone on to the present moment without any interruption or variety. No medicine of any sort has been taken since the juice of the Cotyledon was first resorted to. To suppose that the termination of the disease on taking the Cotyledon was a mere coincidence, is a supposition beyond the ordinary course of probabilities, more especially as this was just one of those cases not likely to cease spontaneously, or to be cured by the unassisted operations of nature. It had existed twelve years, and might, therefore, be thought to have established itself by habit; but there were strong grounds for believing that it had gone further than this, for it had produced some of those effects which we are wont to consider as the offspring of organic change. Her complexion, from having been fair and ruddy, had become sallow and opaque; she had also lost much flesh; the memory had become very defective, and she often expressed herself with incoherence; the temper, also, from having been remarkably amiable, was irresistible and uncertain.

The Cotyledon umbillicus is stated by Withering to be a rare plant: its common habitation would appear to be that of old walls and rocks, but it grows abundantly in this neighbourhood on dry sandy banks. For the information of those unacquainted with the plant, I would add that in the Linnæan arrangement it belongs to the class Decandria, and order Pentagynia, but in the natural classification it will be found under the order Crassulaceæ. It is about six inches high: the leaves are succulent, fleshy, and peltate*: it flowers in June and July, in a long spike of blossoms, accumulated on one perpendicular flower stalk; the corolla is bell-shaped, and of a pale yellow colour; the stem or flower stalk is somewhat purplish, with a few small leaves at its lower part. At the time of flowering the leaves become thin and shrivelled, from yielding their juice to the stem and flowers.

The plant may be used as long as the leaves remain green and succulent, and every part of it be employed for the expression of the juice, with which the leaves, however, are the most abundantly supplied.

The cotyledon is closely allied to the sempervivum and sedums, which also belong to the order Crassulaceæ, and though now forgotten or obsolete as medicines, all three had at one period some reputation both as internal and external remedies.

At a time when nearly all plants were supposed to possess medicinal virtues, it was not to be expected but that these would receive attention. Some species of sedums and the sempervivum have been recommended as anti-scorbutics. It would appear that they were often used in the form of poultice, in cases in which astringent applications were called for. Under these circumstances, Cullen says—"Sedum answers remarkably well applied as a poultice." With regard to the cotyledon, in particular it seems to have been used in the same manner as the rest of the family, though much more rarely, probably from its less general distribution. Cullen, Tournefort, and Linnæus, who make mention of an immense number of plants as having medicinal properties, do not notice this, nor does De Candolle, in his celebrated "Essai sur les propriétés medicales des plantes,"—nor Prichard, in his yet more comprehensive "Histoire naturelle medicale."

It is to the older authors we must refer for the principal uses to which it has been applied. Packinson, in his curious old herbal, "Theatrium Botanicum," published in 1640, has an indifferent figure of it. Under the head of "virtues," he remarks: "The wall pennywort, as Galen saith, is of mixed qualities, that is, of moist and cold, somewhat astringent, and a little bitter withal, whereby it cooleth, repelleth, cleanseth, and discusseth, and is very effectual in ali inflammations and unnatural heats, either inwardly to cool a fainting, hot stomach, or a hot liver, or to bathe the place with the juice or the distilled water: the said juice or water helpeth much also to heal sore kidneys, torn or fretted by the stone, or exulcerated within, and easeth the pains; it provoketh urine likewise, and is available for the dropsy; it helpeth also to break the stone, and to cool the inflamed parts by the pains thereof; and other wringing pains of the bowels and the bloody flux; it is singular good for the painful piles, or hæmorrhoidal veins, to cool and temper their heat, and the sharpness of blood in them."

Elizabeth Bakewell, in her celebrated Herbal, published 1737, and dedicated to Dr. Mead, gives an excellent figure of it, and says the leaves are esteemed cooling, and good in disease of the liver, and that they increase the action of the kidneys, and that they are also useful in erysipelas, piles, and chilblains, and that they are an ingredient in the Unguentum populeon. It is probable that in this unguent it was a

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* In collecting the leaves of the Cotyledon umbillicus care should be taken not to confound it with an umbelliferous plant, the Marsh Pennywort (*Hydrocotyle vulgaris*), which it somewhat resembles: I have known the mistake occur more than once. A view of the entire plant, and a knowledge of the locality in which it grows—the Cotyledon always being found in very dry, and the Hydrocotyle in moist places—will be conclusive.

British substitute for a foreign species of poplar. The formula for the unguentum populeon is given in the Pharmacopœia Austrico Provincialis, published at Vienna in 1780.

In none of these authors, however, can I find any notice of the Cotyledon umbilicus as a remedy for epilepsy.

The above paper was written about four years since, with the intention of publication, but it was thought proper to defer it for a time, with the view of collecting further testimony to the utility of the plant in the disease in question.

The harassing and anxious duties of an extensive country practice have prevented my paying that attention to the subject I would have desired; however, I have great pleasure in being now able to communicate some additional evidence to support the character of the Cotyledon umbillicus, as a remedy for epilepsy, which Miss G—'s case is so calculated to establish. Three other cases of cure have since come to my knowledge, one of which was communicated by my much esteemed and lamented friend, the late John Morgan, Esq., of Guy's Hospital.

I have also been made acquainted with several other cases which have been much benefited by it, and in a shape admitting no doubt as to their correctness. My friend Dr. Bullar, of Southampton, who was informed by my son of Miss G—'s case, tells me that he has since had an extract prepared from the cotyledon, which he has tried pretty extensively, with great success; and I believe it is his intention to lay his experience before the profession.

The lady who recommended the Cotyledon umbillicus to Miss G—, first became acquainted with the remedy by reading an article in an old number of the American Magazine, said to be written by the Rev. John Wesley. This person was in the habit of advising the use of the cotyledon, and also of relating several cases much benefited by its employment, especially that of a female in the workhouse of Midsummer —Norton, who used to have epilepsy very badly, and who dislocated her shoulder every time she had a fit. This individual was so much restored as to be able to leave the establishment and go to service.

Miss G—, the lady whose case originated this communication, continues to the present time in good health, and has had no return of her complaint.*

Poole, Feb. 10, 1849.

OBSERVATIONS ON TRACHEOTOMY.

By Henry Smith, M.R.C.S.
Formerly House Surgeon to King's College Hospital.

Part II.

Of all the operations which the surgeon is called upon to perform, there is no one by which he can give such signal relief as by making an artificial opening in the wind-pipe, in cases of obstructed respiration, when timely undertaken: and those who have witnessed a patient suffering from the agony, the terrible agony, of impending death from suffocation, rescued from destruction by surgical aid, will admit the truth of this assertion: but unfortunately this operation has been attended with so little success, that it may in truth be well esteemed one of the opprobria of surgery.

Why this operation should be attended with so little success, it is the duty of every surgeon to inquire into, and to bring forward any experience of his own which may bear on this point; for it is only by the observation of facts, and sound reasoning upon these facts, that he will be able to come to a correct conclusion, and render more effective the means he has at his disposal to remove suffering and save life.

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* My son, Mr. James Salter (at present House-Surgeon to King's College Hospital), made, some time since, an analysis of the plant, and he found that it contained, besides *lignine*, *cellulose*, *fecula*, and *water*, the latter in very large quantity, *tannic and gallic acids*, the former most abundant in the root, and the latter in the stem: the expressed juice has an acid reaction, probably from *free malic acid*, which is abundant in all the Crassulaceæ: it also contains a good deal of *bassorin*. The ashes consist of *alkaline chlorides* and *carbonates*, and much *carbonate of lime*, which latter exists probably as a malate previous to incineration.

But the most interesting substance disclosed by this analysis, was a body which functioned as an organic base, probably an *alkaloid*, though its reaction on turmeric paper was not clearly shown; it saturated acids, which dissolved it, and it was thrown down by alkalis: in combination with acids it gave indication of crystalline structure. This substance was never obtained in a state of purity, and when calcined, it always yielded an ash of lime—about 7 per cent. This body requires further examination.

In the majority of instances in which this proceeding is put in force, the circumstances attending the cases are so desperate, that there can be little wonder at the small amount of successful results of tracheotomy.

The instances in which this operation has most frequently been resorted to (I am speaking more particularly of tracheotomy in children), are cases of acute affections of the trachea; and here, unfortunately, it is a most rare thing to meet with a successful issue, in this country at least. The utility of opening the trachea in acute croup, is questionable; certainly so, as the operation is generally performed; and I believe there are many well-informed and experienced practitioners who would not recommend this proceeding. And when we consider that the part to be operated upon is in an intense state of inflammation, and that this inflammation is not local, but involves the bronchi and lungs as well, there is great room for reasonable argument against its adoption. At the same time, if we closely inquire into the cases of tracheotomy in croup, we shall find that the operation has merely given temporary relief, and that the little patients have died from exhaustion: knowing this, it becomes a question of serious moment, as to whether a larger amount of success would not have attended the efforts of the surgeon in these cases, had the circumstances been more favourable. The operation is always resorted to, and very naturally, as an extreme measure: the surgeon has no sure guide to lead him in this instance, as in the performance of other severe proceedings under equally urgent circumstances. It is evident what he has to do, and when to set about his work, in the case of a strangulated hernia, or in an uncontrolable hæmorrhage from a large artery, he knows well that no other resource but the use of his knife will avail him: but in the case under notice he is in difficulty and doubt,—he has no certain indications for his mode and time of action,—he does not wish to have premature recourse to a severe and last measure, knowing that the efforts of nature, and the medical means employed, *may* be sufficient to overcome the disease. There is a natural repugnance in any right-minded surgeon, however fond of operating, to use his knife under such doubts and difficulties, and when it may be unnecessary, or even add to the danger already existing.

The consequences are, that tracheotomy is only resorted to when every other remedy has been tried, and the patient is reduced to the lowest condition; so that the powers of life give way beneath the shock of an operation and the influence of an acute and terrible disease. Only temporary relief is given, if the patient is not hurried more quickly to the grave.

But unfortunately the effect of the uncertain state of our knowledge in connection with this subject does not end here. It cannot be doubted that there are many cases occurring of children dying from affections of the throat where tracheotomy has not been thought of, or has not been put in force. I refer particularly to those instances of disease of the mouth and throat which are met with in young children in large cities, and are for the most part the sequela of some constitutional affection. The disease I am speaking of is similar to that described by French authors as diphtheritis; and those cases which I have met with may with all propriety be termed Laryngeal Croup, as the symptoms are mostly referrible to the larynx; and, on post-mortem examination, I have found the effects of the disease to be confined to that portion of the windpipe only, the trachea being unaffected.

It is in these cases that the operation of tracheotomy would be attended with much greater success than in acute croup; for in laryngeal croup the trachea is generally perfectly healthy, whilst the inflammation and consequent change of structure is confined to the larynx. I believe that this operation has been performed with success in diphtherite; but I am not aware that tracheotomy is generally recommended in this disease. On turning to the latest and most excellent work on Diseases of Children, by Dr. West, I see that he makes no mention of opening the trachea in diphtherite, although he states the fatal symptoms are ushered in by "that urgent dyspnœa, and those violent efforts to obtain air, which attend most cases of cynanche trachealis." —(p. 236). And, speaking of the post-mortem appearances of this affection, he says—"I have in no instance observed false membrane extending below the larynx."—(p. 238). But although I believe that tracheotomy is more adapted to, and will be more successful in, this form of disease, than in acute croup, at the same time it should be performed at an earlier period, before the powers of the patient are already too much exhausted. I am speaking, of course, of those cases where it is evident, from prominent symptoms, that the larynx has become affected, and that a fatal termination may be expected; for death may be looked for, if there are indications that the disease has seriously implicated the larynx; and whilst the practitioner, from being averse to the use of the knife, is temporising, and hoping to avert death by other measures, the patient will in all probability be suddenly carried off, and he will blame himself for not having resorted to a proceeding which may have had a fair chance of success.

The preceding remarks have been more particularly suggested to my mind by the case published in the MEDICAL GAZETTE of the 16th of February, and by the following, which has lately occurred to me:—

In the latter part of January I was called upon to attend a fine boy, aged 3 years, who was suffering from inflammation of the lungs. I found him in a most serious condition from this cause, which was the result of measles, the eruption of which had been suppressed. Under ordinary treatment, the symptoms gave way, and the child improved, and in the course of eight or ten days the stethoscopic signs indicated free and clear respiration over the greater part of the chest; but symptoms which were referrible to the larynx came on: the child breathed with difficulty, spoke in a peculiar and suppressed tone of voice, and became very irritable. An aphthous deposit was visible over the palate and tongue, and the child was very thirsty, and had some difficulty of deglutition. I applied the nitrate of silver to the diseased parts, and ordered counter-irritants to the throat, and good nourishment. Under this treatment the child improved, and the aphthous ulcerations which had broken out on the lips and tongue rapidly healed under the use of nitrate of silver. So marked, indeed, was the improvement, that on the 9th of February, I, being much engaged, did not see the patient.

At 10 A.M. on the next day I was summoned in great haste by the father of the child, who stated that his boy had had a sudden fit of difficulty of breathing, that he was black in the face, and that he was afraid he would be strangled. I immediately attended, taking my instruments with me, under the expectation that I should have to open the trachea; but when I arrived, I found that the child had recovered from the attack: he was still breathing with some difficulty, and there was distress of countenance, but no turgidity of the vessels, pulse was good, and he was able to sit up in his mother's arms. Under these circumstances I did not consider myself justified in performing the operation: at the same time I expressed my opinion to the parents that it would probably be necessary to do it, and that the patient was to be narrowly watched; and I desired them to send for me immediately, should another attack come on. I ordered a blister to the throat, and a little wine and water to be given occasionally.

At 3 P.M. I saw the child again, in company with my friend Dr. Westmacott, and it appeared to be much in the same condition as when I last saw it, with this exception, that there was more febrile disturbance, and the pulse was weaker. The breathing was very rapid and difficult, but there was not that marked distress present which induced us to recommend tracheotomy. I desired the parents to send me word how the child was in the evening; but, hearing nothing from them, I concluded he was better. On going, however, next morning, I found the child dead. From the statement of the parents, it appeared that he had remained in the same condition as before mentioned until about 9 o'clock the previous evening, when he died suddenly and quietly a few minutes after taking some orange-juice. I requested a post-mortem examination, stating my conviction that I should find some extensive disease of the larynx, and on examining the body I found my opinion verified: there was evidence of intense inflammation having been present over the posterior part of the palate, pharynx, and larynx, and, on slitting the latter open, I found the orifice of the glottis obstructed by a tenacious secretion; and, on wiping this away, the inner part of the larynx was quite changed by the disease,—ulceration had extended over its inner surface, and over the epiglottis the aretenoi-epiglottideian folds were destroyed, and the ventricles of the larynx were almost filled up. All below the lower segment of the ventricles was unaffected, and the trachea was healthy, with the exception of some congestion.

It was with great regret that I observed these appearances after death, knowing that I had not opened the trachea. Few cases could be met with in which the operation would be more likely to prove successful; and the only reasons why I did not perform it were, that the symptoms were not, when I was present, sufficiently urgent to justify me in doing so, and I was averse to an operation which possibly, and probably even, might be unnecessary; but there can be little doubt, from the appearances of the parts, that tracheotomy was imperatively called for, and that no other measure but that could save the child; and it becomes a serious question whether, in cases of a similar nature, and where we have good reason to believe that the larynx is involved in the surrounding mischief, the trachea is healthy, and our remedies produce no decided effect,—we should not resort to tracheotomy, without waiting for that extreme urgency of symptoms which generally alone determine the surgeon in the performance of this operation.

13, Caroline Street, Bedford Square,
Feb. 1849.

PROGRESS OF THE CHOLERA.

The cases and deaths reported up to the 1st inst. are as follows:—

	Cases.	Deaths.
London . . .	1133	584
Provinces . .	958	413
Scotland .	11,244	4895
	12,335	5892

MEDICAL GAZETTE.

FRIDAY, MARCH 2, 1849.

We recently had occasion to make some remarks on the mode in which a prize had been awarded under the will of the late Dr. Swiney, by three members of the Society of Arts, and three Fellows of the Royal College of Physicians.* We then confined ourselves to a statement of facts. Those facts are unanswerable: they admit of no explanation except that which is in the highest degree damaging to the character of a Society which professes to be established for the encouragement of the arts, and which has for its President his Royal Highness Prince Albert. Some of the respectable members of this Society, to whom the facts have become for the first time known through their publication in our pages, are ashamed of these proceedings; but they are apparently powerless, either to redress what is wrong, or to prevent abuses in the awarding of the Swiney prize at the future quinquennial periods.

The Society of Arts was founded in the year 1753, professedly for the Encouragement of Arts, Manufactures, and Commerce. The encouragement of *Science* is not mentioned as one of the objects of its foundation; and the recent conduct of three of its members, acting in the name, and on behalf of, the whole of the subscribers to this Society, proves that it has no intention to encourage science, even when well paid for the performance of this duty. The Society receives, under the will of the late Dr. Swiney, the liberal sum of £550 in five years, as a premium for awarding, openly, fairly, and according to the honest interpretation of the wishes of the testator, the sum of £200 to the writer of a work which is to be the best on a certain subject specified in the will. How do they perform this duty? They select a work written by a gentleman who they know has been allowed to nominate three of the six judges; they do not invite competition; they keep the whole transaction secret up to the time of the award; and consider that they are thus discharging a public duty according to the wishes and intentions of the testator, and in accordance with the principles on which the Society has been founded! Such conduct would have been condemnable as in the highest degree unfair, even had the book, selected in secrecy, been the best on the subject of which it treats, and had the names of Beck and Christison stood in lower repute as writers on the science, than those of Dr. Paris and Mr. J. S. M. Fonblanque; but it becomes disgraceful when it is considered that the Society of Arts, by lending its authority to this transaction without remonstrance or interference, has departed from the principles which guide its decisions in awarding its own prizes and spending its own money! In what way has the sum of £550, received since 1844 by the Society under Dr. Swiney's bequest, been distributed? Has it been subdivided and awarded in prizes to the inventors of improved ploughs and corkscrews, first brought before the public twenty-five or thirty years since, and then laid aside as useless and obsolete for fifteen or twenty years? Have these ancient inventors been permitted to nominate one half of the judges to decide upon the merits of their obsolete and unused implements,—and have all other more modern and recent inventions been kept out of sight, so that the judges might conscientiously affirm that the invention before them, although long since superseded, was the very best of its kind? If, as we apprehend, this mode of dealing with the £550 has not been permitted, there is only one inference to be drawn,—that the Society for the Encouragement of Arts, &c. expends the funds of others in awarding prizes to what is old and obsolete, while it reserves its own funds for what is new and useful!

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* See page 240.

It may perhaps be considered that we are taking a harsh view of the case, in condemning the whole of the Members of this Society for the conduct of *three*. To this we have a short reply. The proceedings of the Society under which this alienation of the Swiney prize from the purposes intended by the testator has taken place, were, we are informed, quite *regular*, and in strict accordance with the rules by which it is governed. The statement of facts elsewhere published* will show what *regularity* signifies, and to what result it may lead in the Society of Arts. The constitution of the Society is thus admitted to be such, that the grossest and most scandalous abuses may exist in the distribution of its funds through the passiveness, indifference, or ignorance, of the great body of its members. If it be part of the *regular* proceedings of this Society that prizes may be awarded in private, on subjects for which no competition is invited, to individuals who are permitted to name their own judges, the sooner the fact is extensively made known, the better. We invite all the two-guinea subscribers of this Society to consider, whether such a system is deserving of their support; and it is worthy of the consideration of philanthropic testators, whether their funds cannot be bestowed with greater benefit upon some charitable institution, than by their bequeathal to a society which manifests such indifference as to the mode in which they are distributed. We are told by the Rev. Dr. Hume,* that "in carrying out its various objects, a sum of not less than £100,000, raised by the subscriptions of members, by donations, and also by legacies, has been expended by the Society since its foundation." It would be interesting to know whether the *Legacies* have shared the fate of the Swiney bequest: at any rate, if the recent mode of adjudication is to be taken as a specimen of the *regular* proceedings of the Special Committees of this Society, we think another Committee of independent men is urgently required to watch over the distribution of the funds.

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* See page 240.

The Society, which, as Dr. Hume tells us, numbers 830 members, cannot escape, as a body, from the odium attached to the proceedings which we have been called upon to expose. Although more than five weeks have elapsed, there has been no public meeting of the members to condemn or disavow the proceedings of the *Swiney* Committee, nor has there been any announcement that the prize for 1854 will be adjudicated upon different principles. The subject of the next prize has not even been advertised; and, so far as we can ascertain, the Society intends quietly to take the £550 for its stewardship, and allow the silver goblet with the gold coin to pass into the hands of any busy man who may be fortunate enough to have two or three friends in the committee of judges. It has been reported to us, on good authority, that an arrangement has been made between the representatives of the Society of Arts and the very few members of the College of Physicians who have taken a share in the Swiney business, to the effect that the nomination of the goblet-holder shall rest alternately with the Society and the College. Hence, on the 20th January, 1854, it is by no means improbable that a legal gentleman, who may have acted as judge will be found in the chair, presenting this "reward of merit," as our contemporary the *Medical Times* facetiously calls it, to some author of an essay on "Copyholds" or "Patents," the date of which, or its utility as a book of practice, will be of no importance. The turn of the College of Physicians will again come round in 1859; and, as there is nothing, *legally* speaking, in the terms of the will to prevent the same book from gaining the prize more than once, it is not improbable that the fortunate prize-holders of the present year may again divide the *spolia opima* of the eccentric Dr. Swiney, and again share the goblet and the gold. If the judges be consistent, this cannot fail to happen; since, if the prize-book be the best published work on the subject in 1849, *i. e.* twenty-six years after date, it is not likely to have its claims damaged, in the judgment of a special Committee of the Society of Arts, by the lapse of only ten years. Some of the respectable members of this Society may, however, in the meantime call for a revision of those rules which can lead to such results as we have exposed, and may thus present an obstacle to schemes which are perhaps even now under consideration. We trust that this opinion may prove correct, and that the name of a Society which has hitherto held a respectable position, may not be damaged by the conduct of two or three of its enterprising members.

It is impossible to avoid contrasting the conduct of the Council and Members of this Society with the Managers of the Royal Institution, in reference to the management of testamentary bequests. In the year 1838, Mrs. Acton invested in the funds a sum of one thousand pounds in the names of the trustees of the Royal Institution, the interest of which was to form a fund out of which one hundred guineas was to be paid septennially as a prize to the author of the best essay illustrative of the wisdom and beneficence of the Almighty, in such department of science as the Committee of Managers should select. Ample notice by advertisement was given some years before the period fixed for the first award. Chemistry was selected as the subject; and, as our readers may be aware, the prize was awarded to the late Mr. Fownes, whose essay was in the highest degree creditable to him. Let us remark here that the fifteen gentlemen who constitute the Board of Managers of the Royal Institution invited public competition: the nature and conditions of the bequest were not kept secret until within two or three days of the period at which the prize was to be awarded, nor did it then turn out that the managers had bestowed it on one of their own body for a book written some twenty years before the death of the testatrix! The proceedings at the Royal Institution, in reference to the ACTONIAN PRIZE, were as *regular* as those at the Society of Arts on the adjudication of the SWINEYAN PRIZE, but they led to very different results.

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* The Learned Societies and Printing Clubs of the United Kingdom, page 96.

We must admit, however, that there is, generally speaking, a fatality about testamentary prizes for scientific purposes. The intentions of the testator are rarely fulfilled: there is some vagueness in the terms of the bequest which defeats its object; either the testator is not careful enough in appointing the judges, and then there is jobbery of the worst description, or he manifests too much jealousy of those to whose hands he confides the decision, and he thereby prevents from competing, gentlemen in every respect well qualified to become candidates. The ASTLEY COOPER prize is here deserving of notice. Under the will of this eminent surgeon, funds are bequeathed for the institution of a triennial prize of £300 for the encouragement of original investigations in physiology and surgery. The subjects upon which competition may take place are defined and limited. It is, however, provided that no medical officer, or relative or descendant, of any of the medical officers of Guy's Hospital, who are appointed the judges, shall be allowed to compete. Sir Astley Cooper appears to have been actuated by a strong desire to prevent what has actually occurred under Dr. Swiney's will—namely, the assignment of the prize to one of the judges, or to a person in whose favour the judge might have a bias. The first award under this bequest was made to Mr. Simon in 1844, for his essay on the Thymus Gland. The second award was made, as we understand, under rather extraordinary circumstances. Sir Astley Cooper does not appear to have anticipated that the essay or essays sent in might be so defective or imperfect as not to be deserving of the prize. This, we are told, actually occurred in 1847; but the loose wording of the bequest rendered it legally necessary to give the prize to the solitary essay then presented, quite irrespective of its merits; and consequently nothing has been heard by the profession of the work which *necessarily* received the second triennial award!

Our readers will observe that there are three medical testamentary prizes of great value, which are, or ought to be, now open to competition:—1st. The ASTLEY COOPER Prize, value three hundred pounds, which will fall due in 1850. 2d. The ACTONIAN Prize, value one hundred guineas, which will be awarded in 1852; and 3d. The SWINEY Prize, value two hundred pounds, to be awarded in January

1854. If we are rightly informed, however, the last is intended for a *legal* gentleman. For the two first, competition is invited; and candidates may feel assured, from the proceedings which have marked the previous awards, that their essays will be received and dealt with in a fair, honourable, and open manner. The medical officers of Guy's Hospital, and the managers of the Royal Institution, comprise a body of gentlemen whose names are a guarantee that the wishes of the testators shall not, so far as they are concerned, be made a "mockery and a delusion." Of the third, or Swiney prize, we may remark, that there is no subject announced, and that candidates are not invited to compete. Those who are curious about the reasons for this difference in the proceedings of the three Institutions, will find a satisfactory explanation in the statement of facts published in a recent number of this journal.

We had intended to make some observations on the fate of the Swiney Geological Lectureship, which turns out to be by no means so profitable to the lecturer as the testator intended and we had supposed. We are, however, compelled to reserve these for another occasion.

Reviews.

Eruptions of the Face, Head, and Hands; with the latest improvements in the treatment of Diseases of the Skin, &c. By T. H. BURGESS, M.D. 8vo. pp. 254, with coloured plates. London: Renshaw. 1849.

THE most novel feature in Dr. Burgess's work, and one which is likely to recommend it to the notice of practitioners, is, that we have in it a description of diseases of the skin according to the regions in which they occur. The great advantage of this plan is seen in its practical utility; for it tends materially to aid diagnosis and treatment. The author justly observes, in his preface, that the study of anatomy is greatly facilitated by dividing the body into regions; and in the treatise before us he has endeavoured to work out this principle in reference to skin diseases. Irrespective of practical utility, there is a full justification for a regional arrangement, when we consider that certain diseases of the skin appear to attack some parts of this structure in preference to others. Thus Itch never attacks the face, nor Lupus the hands: Acne and Sycosis may also be regarded as facial diseases. Hence, assuming that we have now a sufficient knowledge of the various forms of skin disease which attack a part, it is obvious that a diagnosis may soon be made by the limitation of the number, and the special characters presented by each.

This volume is devoted to the history of three groups of skin diseases—namely, those which affect the FACE, HEAD (hairy scalp), and HANDS: thus comprising the greater number of diseases which the practitioner is called upon to treat. In his introductory remarks, the author gives us some judicious observations on the close dependence of this class of diseases on constitutional causes, and the great importance of attending to this circumstance in their treatment. Certain forms of skin disease are met with in the young; other forms in the old. Some more particularly attack females, and others manifest themselves in both sexes, according to habits of life or hereditary predisposition. The merely local treatment, therefore, will generally be found to fail. Among constitutional medicines, the author attributes highly valuable properties to *phosphorus*. He states that he has found it very serviceable in the treatment of the most rebellious forms of skin disease.

"My attention was first directed to this remedial agent during the period of the cholera in 1832, and I then found it successful, when every other remedy had failed, in several cases of that disease, and the patient in the lowest stage of collapse. In these cases, it appeared to act as a violent stimulant, principally through the nervous system, accelerating the circulation, and exciting the muscular irritability in the highest degree.

I can now recommend it as one of the most valuable medicinal agents we possess in those inveterate cutaneous diseases—leprosy, psoriasis, lupus—in which the skin seems to adapt itself to the morbid condition, which it retains with singular tenacity against all the usual methods of treatment.

"The phosphorous treatment of these maladies may be either internal or external. The best method of administering the remedy internally is dissolved in oil or ether; and the phosphorated oil or ether then mixed up with powdered gum arabic and mint water. Camphorated lard is the most appropriate vehicle for applying phosphorus externally. Its energetic revulsive properties may likewise be turned to account in certain diseased conditions of the skin. Phosphorus, the iodide of arsenic, cantharides, and the binoxide of mercury, are the most powerful internal remedies for skin diseases we possess." (p. 16-17.)

If this view of the action of phosphorus be confirmed by further observations, it will form another curious link between this singular substance and arsenic. The isomorphous relations of these bodies, and their close analogies in properties, are well known. Their iso-therapeial action in diseases of the skin appears now to be established by the observations of Dr. Burgess.

The section on Eruptions of the Face occupies about half the volume: it comprises erythema, roseola, herpes, eczema, lichen, impetigo, acne, sycosis, pityriasis, lupus, and the syphilides. The descriptions attached to each are short, but concise and practical. We extract the following account of the treatment of that troublesome affection, eczema, as a specimen of the mode in which the author deals with his subject:

"*Treatment.*—This disease occurs most commonly in young children, in whom it is produced by difficult dentition and gastro-intestinal irritation, and in young girls from difficult or irregular menstruation, or derangement of the digestive organs. It is seldom the result of local irritation. For these reasons, it is obvious that the first and principal indication is to endeavour to improve the general health,—to restore the disordered functions to the normal state; but it should be always borne in mind that, in children particularly, eczema of the face and head is often a salutary discharge, which it is dangerous to heal suddenly.

"When the eruption assumes a mild character, saline aperients, diluents, acidulated mixtures with tonics, and the warm or vapour bath, are the appropriate remedies—water dressing being the best local application. In the severer forms, when the inflammation is acute, the abstraction of blood will be necessary, and sometimes must be repeated. Local bleeding, by means of leeches, in the vicinity of the disease, is preferable to general bloodletting, especially in children; and subsequently, the simple, emollient, or alkaline bath, as the case may require, will be found very beneficial, even when the diseased parts are not immersed in the water. In the adult, alkaline mixtures used internally will assist the treatment.

"An endless variety of local applications have been recommended in the treatment of the more rebellious forms of eczema, and none more so than the preparations of sulphur. As a general rule, these are not only useless, but injurious, and should be avoided. The alkaline, tannin, and oxide of zinc ointments, are the most useful of those generally employed, but I have found a lotion composed of Bicyanuret of Mercury, two grains, and of Distilled water, one ounce the most beneficial application in the inveterate forms of eczema. For allaying the distressing itching, the prussic acid lotion, alternated with some soothing wash, as the decoction of poppy-heads, will be found more generally successful than any other remedy." (p. 33—34.)

Dr. Burgess gives a pretty full account of syphilitic eruptions of the face, and their treatment; and, in concluding his examination of the numerous remedies proposed, observes that—

"It is indispensably necessary that the treatment of the syphilides should be continued for some time after the eruption has disappeared. It is impossible to lay down any precise rules as to the limits of this period, which it is evident must be regulated by the character of the preceding disease, and the tact of the physician. If the eruption was mild, of short duration and yielded easily to the treatment, say in the course of a month or six weeks, it ought to be continued for a month longer, at the same time gradually diminishing the dose. If the disease, on the contrary, was of a severe character, of considerable duration, and the treatment had occupied a period of several months, the patient should be allowed to repose for about a fortnight after the disappearance of the complaint, and then the treatment may be recommenced, and followed in the same manner as before for a given time, then omitted, and begun again, as in the first instance. It is sometimes necessary to discontinue the medicine three different times before we have done. It is a singular coincidence, and worthy of being remembered, that a patient who may have borne the mercurial preparations well for several months without intermission, will suddenly, and after a discontinuance of the treatment for a few days, show an almost invincible intolerance of these remedies. This is a sure indication that the treatment is complete." (p. 125-6.)

The author has found great benefit from the topical application of the vapours of iodine and sulphur in many diseases of the scalp; and he states he has found it preferable to all other remedies in cases of alopecia, when the object is to stimulate the exhalants, sebaceous glands, or hair follicles. Tincture of cantharides is the active ingredient in most of the quack nostrums for removing baldness, or promoting the growth of the hair. This, combined with the acetate of lead, enters into the composition of Dupuytren's ointment.

A short space is assigned to an account of eruptions of the hands.

The section on itch is well worthy of perusal. The natural history and habits of that disagreeable insect, the *Acarus scabii*, are here pretty fully detailed. Whence this active little animal comes is as great a mystery as the origin of the flies in amber. It is never met with except in a little burrow closely adjoining the itch-vesicle or pustule. M. Hebra employed this industrious parasite for the purpose of inoculation, and found, to his great satisfaction, that he was thus enabled to communicate the itch to himself as well as some of his patients! The tenacity of life possessed by this animal is worthy of record, inasmuch as, according to M. Hebra, it will account for the direct conveyance of itch in articles of clothing long after they have been laid aside. Dr. Burgess tells us, on the authority of Hertwig and Ritter, that this dermatophagous insect will actually live "for three months after its removal from its burrow; and Vezin has observed that acari which were decrepit and half dead with hunger, quickly regained their original strength and vivacity as soon as they were replaced on the human skin!" The local application of sulphur appears to act as a poison to them; and, owing to this, sulphur has commonly acquired repute as a specific for the disease. Our author mentions some other more cleanly applications which have been found equally efficacious. To the work is appended a series of formulæ, under the head of Internal and External Remedies for Diseases of the Skin.

In concluding our notice of this work, we may remark that it is creditable to the industry and practical knowledge of the author. The mode in which diseases of the skin are classified in it gives peculiar facilities for reference. Many cases are enumerated which shew that the author has derived his knowledge from actual observation, chiefly in the hospitals of the Continent. It contains four coloured plates, which are well calculated to aid the diagnosis of certain forms of disease; and there is one lithographic plate in which the various structures of the skin are accurately depicted from microscopical observations.

Hand-book of Physiology. By William Senhouse Kirkes, M.D.; assisted by James Paget, Lecturer on General Anatomy and Physiology at St. Bartholomew's Hospital. With Illustrations. 8vo. pp. 705. London: Taylor and Walton. 1848.

We learn from the preface to this work, that it has been projected with the design of forming a convenient manual for students and practitioners who have not the opportunity of consulting larger treatises. Some portions of it are chiefly abstracts of Baly's translation of Müller's Physiology—a work which a few years since had a considerable circulation. The lapse of seven years is sufficient to make a material difference in the facts and principles of physiology, as well as of all other branches of medical science; and the student and practitioner of the present day are not contented unless they can have access to the most recent information in a compendious form. Hence Dr. Kirkes judiciously abandoned the plan of taking Müller as the basis of his Handbook; and the greater portion of the present volume may be regarded as an independent treatise on Physiology.

In the introductory chapters we have a description of the chemical and structural composition of the human body, as well as of the vital properties of the organs and tissues. These are followed by chapters on the Blood, the Circulation, Respiration, Animal Heat, Digestion, Absorption, and Secretion. A large space is devoted to an account of the nervous system, and the work is concluded with the physiology of the Senses, Generation, and Development.

A few extracts taken from various parts of the work will suffice to shew how the author has dealt with his subject. A knowledge of the *structural* composition of the body is now demanded of students; and those who are preparing for their examinations will do well to refer to this treatise for a clear and concise description of a somewhat complicated subject.

"2. *Nuclei*, or *cytoblasts*, appear to be the simplest elementary structures, next to granules. They were thus named in accordance with the hypothesis that they are always connected with cells, or tissues formed from cells, and that in the development of cells each nucleus is the germ or centre around which the cell is formed. The hypothesis is only partially true, but the terms based on it are too familiarly accepted to make it advisable to change them till some more exact and comprehensive hypothesis is formed.

"Of the corpuscles called nuclei, or cytoblasts, the greater part are minute cellules or vesicles, with walls formed of simple membrane, enclosing a colourless pellucid fluid, and often one or more particles like minute granules, called *nucleus-corpuscles*, or *nucleoli*. Such vesicular nuclei, without nucleoli, are those of the blood-corpuscles of oviparous vertebrate animals; and such, with nucleoli, are those of epithelium-cells and pigment-cells. But some nuclei appear to be formed of an aggregate of granules imbedded in a pellucid substance, as, for example, the nuclei of the lymph- and chyle-corpuscles.

"The composition of the nucleus is uncertain. One of its most general characters, and the most useful in microscopic examinations, is, that it is neither dissolved nor made transparent by acetic acid, but acquires, when that fluid is in contact with it, a darker and more distinct outline. On this account Kölliker supposes the wall of the nucleus to be composed of a proteine-compound named *pyine;* its contents he also considers to be albumen, and the nucleoli fatty matter; but there is not sufficient evidence for these views." (p. 25-6.)

Then follows a description of cells.

"3. *Cells*, *primary cells*, or *elementary cells*, are vesicles or scales of larger average size than nuclei, but, like them, composed, in the normal state, of membranous cell-walls, with, usually, liquid contents, and generally round or oval.

"The cell-wall never presents any appearance of structure; it appears to be sometimes a proteine-substance, as in blood-cells; sometimes a horny matter, as in thick and dried cuticle. In almost all cases (the dry cells of horny tissue, perhaps, alone excepted) the cell-wall is made transparent by acetic acid, which also penetrates through it and distends it, so that it can hardly be discerned. But in such cases the cell-wall is usually not dissolved; it may be brought into view again by nearly neutralizing the acid with soda or potash.

"In some instances the most developed state of a cell is that in which it has no nucleus, as in the mammalian and blood corpuscles, in which, as will be described, the substance of the nucleus of the lymph- or chyle-corpuscle is gradually all appropriated and changed to the contents of the blood-corpuscle. But, in other instances, especially in old cells, as in those of the nails, the outer layers of epidermis, and the adipose tissue, the nucleus may disappear, wasting away; and this is, probably, always a sign of degeneration of the tissue, for a similar wasting of nuclei is commonly observed in all tissues in the state of fatty degeneration.

"With the exceptions just mentioned, all the cells of the human body appear to contain nuclei. Sometimes the nucleus nearly fills the cavity of the cell, as in lymph- and chyle-corpuscles, in which the cell-wall lies so close round the nucleus that it can hardly be seen till it is raised up by water or acetic acid insinuating itself between it and the nucleus; and such is the proportion between the nucleus and cell in young epidermis-cells; but more often the nucleus has a diameter from one-fourth to one-tenth less than that of the cell.

"The simplest *shape* of cells, and that which is probably the normal shape of the primary cell, is oval or spheroidal, as in cartilage-cells and lymph-corpuscles; but in many instances they are flattened and discoid, as in the blood-corpuscles,—or scale-like, as in epidermis and tesselated epithelium. By mutual pressure they may become many-sided, as the pigment cells of the choroidal pigmentum nigrum and in close-textured adipose tissue: they may assume a conical or cylindriform or prismatic shape, as in the varieties of cylinder-epithelium and the enamel-tubes; or be caudate, as in certain bodies in the spleen; they may send out exceeding fine processes in the form of vibratile cilia, or larger processes, with which they become stellate, or variously caudate, as in the large nerve- or ganglion-corpuscles, and the epithelium of the choroid plexuses.

"The *contents* of cells, including under this term all but their nuclei, are almost infinitely various, according to the position, office, and age of the cell. In adipose tissue they are the oily matter of the fat, the mixture of margarine and oleine: in gland-cells the contents are the proper substance of the secretion, bile, semen, &c., as the case may be; in pigment-cells they are the pigment-granules that give the colour; and in the numerous instances in which the cell-contents can be neither seen, because they are pellucid, nor tested, because of their minute quantity,—they are yet, probably, peculiar in each tissue, and constitute the greater part of the proper substance of each. Commonly, when the contents are pellucid, they contain granules which float in them; and when water is added and the contents are diluted, the granules display an active molecular movement within the cavity of the cell. Such a movement may be seen by adding water to mucus- or pus-corpuscles, or to those of lymph. In a few cases the whole cavity of the cell is filled with granules: it is so in yelk-cells and milk-corpuscles, in the large diseased corpuscles often found among the products of inflammation, and in some cells when they are the seat of extreme fatty degeneration. The peculiar contents of cells may be often observed to accumulate first around or directly over the nuclei, as in the cells of black pigment, in those of melanotic tumors, and in those of the liver during retention of bile." (p. 27-29.)

The chapters on the blood and circulation are well worthy of perusal, since they contain the latest views of physiologists regarding this important liquid, and the facts connected with its distribution through the system. In reference to the muscularity of arteries, denied by Müller, we find the following observations:—

"*Muscularity of arteries.*—Lastly, satisfactory evidence of the muscularity of the arterial coats is furnished by the experiments of Ed. and E. H. Weber, in which they applied the stimulus of electro-magnetism to small arteries. One principal circumstance which induced Müller to deny the muscularity of arteries, was the seeming impossibility of producing contractions in arteries by galvanic and electric stimuli, which excite all true muscular tissues to manifest contraction. An explanation of the failure may be found in the circumstance, that in nearly all the experiments, the arteries examined were of large size, such as the aorta and the carotids, in which there is little or no muscular tissue. The experiments of the Webers were performed on the small mesenteric arteries of frogs; and the most striking results were obtained, when the diameter of the vessels examined did not exceed from 1-7 to 1-17 of a Paris line. When a vessel of this size was exposed to the electric current, its diameter, in from five to ten seconds, became one-third less, and the area of its section about one-half. On continuing the stimulus, the narrowing gradually increased, until the calibre of the tube became from three to six times smaller than it was at first, so that only a single row of blood-corpuscles could pass along it at once; and eventually the vessel was closed, and the current of blood arrested.

"Thus, with the exception of the largest trunks, the arteries appear to offer every necessary evidence of muscularity. One of their coats has the structure and chemical composition of organic muscle; and, like such muscle, they contract on exposure, on division and mechanical irritation, after death with a kind of *rigor mortis*, on the application of cold, and under the stimulus of electricity: in all these contractions they are reduced to a size less than that which their mere elasticity would give them, and from all they are commonly, after a time, again by their elasticity restored to a larger size." (p. 109-110.)

The modern doctrine of imbibition in place of effusion, in reference to the functions of the capillaries, is thus developed:—

"*The capillaries.*—Microscopic observations and minute injections have shewn that the capillary vessels are merely the fine tubes which form the medium of transition from arteries to veins, and that no other kind of vessel arises from them; that the minute arteries have no other mode of termination than the communication with the veins by means of the capillaries,—in a word, that there are no exhalant or other vessels terminating by open extremities. The hypothesis of the existence of such vessels is alike unnecessary to the explanation of secretion, growth, nutrition, and all the other functions of a part. All that these functions require of the vessels is, that, for each tissue, the blood should be brought so near to the active elements of the tissue, that some of its parts may be absorbed or imbibed by them. And the distance through which such imbibition is effected is not always small; in the brain, for example, those portions of its substance which lie in the middle of the wide meshes of the capillary network must be nourished by imbibing fluid through the spaces between them and the nearest vessels; so also in bone, where the vessels are yet wider apart. But the instances in which such imbibition is effected through the greatest distance are in what are called non-vascular tissues, which receive no blood-vessels into their own substance, and are nourished by the fluid absorbed from the vessels of the adjacent vascular parts: as the cornea from the vessels of the conjunctiva, the lens from those of the posterior layer of its capsule, articular cartilage from the vessels of the subjacent bone. The difference of nutrition in vascular and non-vascular tissues is only one of degree ; in all parts alike the elementary structures are outside the vessels, and obtain new materials from the blood by imbibition ; but the imbibition has to be accomplished through a greater distance in the less than in the more vascular parts.

"The *structure* of the capillaries offers little hindrance to such imbibition. Their walls are composed of exceedingly fine, transparent, and apparently homogeneous membrane, in which are imbedded, here and there, minute oval corpuscles, probably the persistent nuclei of the cells from which the vessels were originally formed. Only in the largest capillaries are there traces of an epithelial lining like that of the arteries, or of filaments, like rudiments of a circularly-fibrous coat." (p. 123-124.)

The alleged counteracting effect of gravitation on the circulation of the blood is thus disposed of.

"*Effect of gravitation.*—The principal obstacle to the circulation is already overcome when the blood has traversed the capillaries ; and the force of the heart, which is not yet consumed, is sufficient to complete its passage through the veins, in which the obstructions to its movement are very slight. For the formidable obstacle supposed to be presented by the gravitation of the blood has no real existence, since the pressure exercised by the column of blood in the arteries will be always sufficient to support a column of venous blood of the same height as itself; the two columns mutually balancing each other. Indeed, so long as both arteries and veins contain continuous columns of blood, the force of gravitation, whatever be the position of the body, can have no power to move or resist the motion of any part of the blood in any direction; as if one had a circular tube full of fluid at every part, the fluid might be made to circulate with equal facility in either direction, or in any position of the tube. The lowest blood vessels have, of course, to bear the greatest amount of pressure; the pressure on each part being directly proportionate to the height of the column of blood above it: hence their liability to distension. But this pressure bears equally on both arteries and veins, and cannot either move, or resist the motion of, the fluid they contain, so long as the columns of fluid are in both of equal height and continuous. Their condition may in this respect be compared with that of a double-bent tube full of fluid held vertically ; whatever be the height and gravitation of the columns of fluid, neither of them can move of its own weight, each being supported by the other ; yet the least pressure on the top of either column will lift up the other ; so, when the body is erect, the least pressure on the column of arterial blood may lift up the venous blood, and, were it not for the valves, the least pressure on the venous might lift up the arterial column." (p. 130-131.)

In the chapter on respiration, the following summary of the phenomena attending death from suffocation, will be perused with interest:—

"*Asphyxia.*—The condition, then, in which a suffocated animal dies is, commonly, that the left side of the heart is nearly empty, while the lungs, right side of the heart, and other organs are gorged with venous blood. To this condition many things contribute. 1st. The obstructed passage of blood through the lungs, which appears to be the first of the events leading to suffocation, seems to depend on the cessation of the interchange of gases, as if blood charged with carbonic acid could not pass freely through the pulmonary capillaries. That such may be the case, is shewn by Mr. Wharton Jones's observation that the circulation in the web of the frog's foot may be retarded or arrested by directing on the web a stream of carbonic acid, under the influence of which the blood-corpuscles appear to cluster and stagnate in the vessels. But the stagnation of blood in the pulmonary capillaries would not be enough to stop the circulation, unless the actions of the heart were also weakened ; for Mr. Erichsen having pithed dogs, and tied the right bronchus, and maintained artificial respiration in the left lung, found that, so long as the heart's action continued, nearly as much blood flowed through a right pulmonary vein, as red blood through a left one.

"Therefore, 2ndly, the fatal result is due, in some measure, to the weakened action of the right side of the heart,—in consequence, probably, of its over-distension by blood continually flowing into it, which it is not able to discharge quickly through the lungs.

"Thirdly, because of the obstruction at the right side of the heart, there must be venous congestion in the medulla oblongata and nervous centres ; and this evil is augmented by the left ventricle receiving and propelling none but venous blood. Hence slowness and disorder of the respiratory movements, and the movements of the heart, may be added. But this alone does not explain asphyxia ; for Mr. Erichsen found that a dog was asphyxiated in the ordinary time, although arterial blood was made to circulate through the nervous centres during the whole time. However, under all these conditions combined, the heart at length ceases to act. The time at which the complete cessation ensues is uncertain. 'The domestic Mammalia usually perish, after submersion in water, in about three minutes: there are exceptional cases, in which animals and human beings have been revived after being under water for a longer period. According to Mr. Erichsen, in dogs suffocated by drowning, the voluntary movements cease in 1¾ minutes; the involuntary in 2½ after submersion; the ventricular contractions continue for a period ranging from 6½ to 14 minutes, the average time being 9½ minutes; and the blood in the arteries becomes as black as that in the veins in about 1½ minute. In the human subject, he thinks that the ventricular contractions always cease at or before the expiration of five minutes after complete submersion; for persons are rarely, if ever, saved, if they have been under water more than four minutes. The instances in which recovery has taken place after a long immersion, are probably to be explained by the occurrence of fainting at the moment of the accident; for, with the circulation enfeebled, the deprivation of air may be endured much longer than it can while the blood still circulates quickly and accumulates carbonic acid.

"It is to the accumulation of carbonic acid in the blood, and its conveyance into the organs, that we must, in the first place, ascribe the phenomena of asphyxia. For when this does not happen, all the other conditions may exist without injury; as they do, for example, in hybernating, warm-blooded animals. In these, life is supported for many months in atmospheres in which the same animals, in their full activity, would be speedily suffocated. During the periods of complete torpor, their respiration entirely ceases; theheart acts very slowly and feebly; the processes of organic life are all but suspended, and the animal may with impunity be completely deprived of atmospheric air. Spallanzani kept a marmot, in this torpid state, immersed for four hours in carbonic acid gas, without its suffering any apparent inconvenience. Dr. Marshall Hall kept a lethargic bat under water for sixteen minutes, and a lethargic hedgehog for 22½ minutes: and neither of the animals appeared injured by the experiment." (p. 172-174.)

In the section on digestion, Dr. Kirkes gives us an account of the digestive principle.

"*Pepsine.*—The *animal matter* mentioned in the analysis of the gastric fluid by Dr. Dunglison has been named *pepsine*, from its power in the process of digestion. It is best procured by digesting portions of the mucous membrane of the stomach in cold water, after they have been macerated for some time in water at a temperature between 80° and 100° F. The warm water dissolves various substances as well as some of the pepsine, but the cold water takes up little else than pepsine, which, on evaporating the cold solution, is obtained in a greyish-brown viscid fluid. The addition of alcohol throws down the pepsine in greyish-white flocculi; and one part of the principle thus prepared, if dissolved in even 60,000 parts of water, will digest meat and other alimentary substances." (p. 207.)

The chapter on the nervous system, which occupies nearly one-fourth of the volume, has been drawn up with great care. Among some passages which we had marked for quotation, we shall here extract Dr. Kirkes's account of the *Reflection of Impressions*:—

"1. For the manifestation of every reflex action, three things are necessary: 1st, one or more perfect centripetal nerve-fibres, to convey an impression; 2ndly, a nervous centre to which this impression may be conveyed, and in which it may be reflected; 3rdly, one or more centrifugal nerve-fibres, upon which this impression may be reflected, and by which it may be conducted to the contracting tissue. In the absence of either of these three conditions, a proper reflex movement could not take place; and whenever impressions made by external stimuli or on sensitive nerves give rise to motions, these are never the result of the direct reaction of the sensitive and motor fibres of the nerves on each other; in all such cases the impression is conveyed by the sensitive fibres to a nervous centre, and is therein communicated to the motor fibres.

"2. All reflex actions are essentially involuntary; all may be accomplished independently of the will, though most of them admit of being modified, controlled, or prevented by a voluntary effort. All are perfectly performed without education or previous experience, although some, as coughing, and the like, are not well performed unless the will have previously made some preparatory movement.

"3. All reflex actions performed in health have a distinct purpose, and are adapted to secure some end desirable for the well-being of the body; but, in disease many of them are irregular and purposeless. As an illustration of the first point, may be mentioned movements of the digestive canal, the respiratory movements, the contraction of the eyelids and the pupil to exclude many rays of light when the retina is exposed to a bright glare. These, and all other normal reflex acts, afford, also, examples of the mode in which the nervous centres *combine* and arrange co-ordinately the actions of the nerve fibres, so that many muscles may act together for the common end. Another instance of the same kind is furnished by the spasmodic contractions of the glottis on the contact of carbonic acid, or any foreign substance, with the internal surface of the epiglottis or larynx. Examples of the purposeless, irregular nature of morbid reflex actions are seen in the convulsive movements of epilepsy, and in the spasms of tetanus and hydrophobia.

"4. Reflex muscular acts are commonly more sustained than those produced by the direct stimulus of muscular nerves. As Volkman relates, the irritation of a muscular organ, or its motor nerve, produces contraction lasting only so long as the irritation continues; but irritation applied to a nervous centre through one of its centripetal nerves, excites reflex and harmonious contractions, which last some time after the withdrawal of the stimulus." (p. 375-6.)

On the subject of phrenology, as a theory of mental manifestations, Dr. Kirkes is inclined to return a verdict of "Not proven." In reference to the functions of the brain, the author remarks:—

"To explain such facts, no hypothesis (if it must be so called while we have regard only to the facts of science) is so sufficient as that which supposes an immaterial principle, not necessarily dependent for its existence on the brain, but incapable of external manifestation, or of knowledge of external things, except through the medium of the brain, and the nervous organs connected therewith. Such a principle would remain itself unchanged, in the case of injury or disease of the brain; but its external manifestations, and all its acts performed in connection with the brain, would be hindered or disturbed: as, for example, the work of any artist might be stopped or spoiled through deficiency or badness of his implements of art. And in the operations of such a principle, it might well be supposed that the power with which its several faculties are manifested would bear a direct proportion to the size of the organs through which they are manifested; for whether we suppose or not that the principle itself may, in different individuals, have different degrees of power, yet its power of manifestation or perception through the cerebral hemispheres, may vary as those organs do.

"But while this may be true respecting those parts of the mind which have to do with the things of sense, it would require much more and different evidence and arguments to make it probable that the cerebral hemispheres, or any other parts of the brain, are, in any meaning of the term, the *organs* of those parts or powers of the mind which are occupied with things above the senses. The reason or Spirit of man which has knowledge of divine truths, and the conscience, with its natural discernment of moral right and wrong, cannot be proved to have any connection with the brain. In the complex life we live, they are, indeed, often exercised in questions in which the intellect or some other lower mental faculty is also concerned; and in all such cases men's actions are determined as good or bad according to the degree in which they are guided by the higher or by the lower faculties. But the reason and the conscience must be exercised independently of the brain when they are engaged in the contemplation of things which have not been learned through the senses, or through any intellectual consideration of sensible things. All that a man feels in himself, and can observe in others, of the subjects in which his reason and his conscience are most naturally engaged; of the mode in which they are exercised, and the disturbance to which they are liable by the perceptions or ideas of sensible things; of the manner and sources of their instruction; of their natural superiority and supremacy over all the other faculties of the mind; and of his consciousness and responsibility for their use;—all teaches him that these faculties are wholly different, not in degree only, nor as different members of one order, but in kind and very nature from all else of which he is composed; all, if rightly considered, must incline him to receive and hold fast the clearer truth which Revelation has given of the nature and destinies of the Spirit to which these, his highest faculties, belong." (p. 421-3.)

These observations are highly creditable to the author: they furnish a sufficient answer to the sneering remark of the atheist and infidel, that the study of physiology necessarily leads to materialism.

We had marked many other passages for quotation, but we must here bring our notice of this work to a close, by expressing our opinion that it is one of the best treatises on physiology which can be put into the hands of a student. Every subject is handled with good sense and judgment, and with due attention to its relative importance. The reader will nowhere perceive the pedantry of science, or a disposition on the part of the author to claim more than is his due, by concealing the sources from which he has derived his facts. We have referred to Dr. Kirkes as the sole author, because we believe that he has had the larger share in the production of the work. The supervision which it has received from Mr. Paget greatly adds to its value. We ought to notice that the Hand-book is furnished with a most copious index, and that it is printed in such clear and legible type, that practitioners of thirty years' standing may turn over its pages without the risk of damaging their vision. We predict that this will take its place as a standard work on physiology in all our medical schools and colleges.

Proceedings of Societies.

PATHOLOGICAL SOCIETY OF LONDON.

February 19th, 1849.

C. Aston Key, Esq., in the Chair.

Prof. Fergusson exhibited a specimen of

Encysted Stone of the Bladder.

This specimen was removed from a man, æt. 68 : it showed a large stone in a cyst at the right side of the bladder, immediately behind and above the prostate gland. The stone was about the size of a small orange, and a portion of it can be seen through an opening communicating with the cavity of the bladder, about the diameter of a sixpence. This patient had suffered from irritation in the urinary organs for about twenty-six years, but the presence of a stone was ascertained only a few months before his death. A small stone was detected by the sound, and the large one in the sac was conjectured to be present. Lithotrity was performed for the purpose of getting rid of the small stone. The patient became feverish; inflammation supervened, and he died twenty days after the operation. Portions of the stone were voided during life, and a single fragment, of the size of a nutmeg, was found loose in the bladder. The surface of the large stone seen at the opening between the bladder and the sac, presented an appearance as if the small stone in the bladder had been broken off at this part. The bladder has numerous little sacculi projecting from it: the large sac, where the stone was lodged, had probably, in the first instance, resembled one of these, but as the stone had increased in size the sac had been proportionably enlarged, and had become adherent to the neighbouring parts. This specimen was interesting, from the great size of the stone, from the length of time it had probably existed in this situation, from the slight irritation it had caused, and lastly, from the rareness with which calculi are found in this situation.

Mr. C. Aston Key fully concurred in the extreme rarity of this affection; he had never met with a case in the living subject in which the stone was thus impacted.

Mr. Prescott Hewett could recal three cases in which he had met with this morbid condition in post-mortem examinations: one was particularly interesting, from the circumstance of a long process projecting from the encysted calculus into the bladder.

Prof. Fergusson also exhibited

Two Fibrous-looking Tubercles,

one about the size of a filbert, the other the size of a horse-bean, removed, together with a stone, in the operation for lithotomy: they came away without force, and were probably detached from the middle of the prostate gland with the fore-finger of the left hand: the prostate gland was slightly enlarged and very rigid. The patient recovered rapidly. These were probably specimens of fleshy growths, with contracted necks, occasionally met with attached to the prostate gland.

Mr. Morton exhibited a specimen of

Fungoid Disease of the Bladder,

removed from a gentleman about the middle period of life; the same disease was found deposited in most of the vital organs. At the lower part of the bladder there was a large raised fungoid mass, with some calcareous deposit within it. One of the leading symptoms during life had been profuse hæmorrhage from the urethra, which recurred from time to time. This gentleman had been seen by some of the leading surgeons of London, and the disease had been correctly diagnosed; although the calcareous deposit might, to an inexperienced touch, have given the impression of the existence of a calculus.

Also a

Tumor of a somewhat doubtful character,

contained in a cyst, and, in the opinion of some of the members, of a simple fibrous nature, removed from the labium pudendi.

Also a

Simple Gelatiniform Polypus of the Nose,

the chief interest of which was its great size, the fact of its having been removed at one operation, and the great deformity and distension it had caused in the nasal cavity.

Also several

Atheromatous Tumors of the Scalp,

some of considerable size, removed from the scalp of a patient, who could trace that the disease had existed in five generations of her family.

Mr. Pollock exhibited a remarkable specimen of

Osseous Tumor of the Lower Jaw.

Francisco Echabejoni, æt. 48, a Spaniard, was admitted into St. George's Hospital, under Mr. Tatum, on the 1st May, 1848.

There was considerable deformity of the right side of the face, arising from the presence of a large, hard, nodulated tumor, occupying the whole of the right side of the lower jaw, so that this portion of the inferior maxillary bone appeared surrounded by the growth: it was very irregular on its surface, and uniformly osseous in consistence, the upper part projecting behind the zygoma, and the internal part into the mouth, so as materially to diminish its cavity; and it also encroached much on the fauces: in front it extended nearly to the symphysis of the jaw. There was a considerable cicatrix in the skin over the outer portion of the tumor, the cicatrix and the surrounding skin being firmly adherent to the tumor below. The patient stated, that some five years previous to his admission he had a tooth extracted from the lower jaw on the right side; that a growth soon afterwards made its appearance from that portion of the jaw, which gradually increased in size, but was never attended with pain. About two years ago, and about three years after its first appearance, he was operated on in France, so far that so much of the tumor as projected externally was removed, but the remainder was not interfered with. Since that operation the growth has continued to increase.

The tumor was removed on the 4th of May. An incision, commencing a little above the tempero-maxillary articulation on the right side, was carried in a curved direction a little beyond the median line to about an inch below the lower lip. A second incision was also made, so as to include the whole of the cicatrix between the two wounds. The soft parts were then dissected off the tumor, both above and below, and the bone was divided a little to the right of the symphysis, so as not to interfere with the attachment of the genio-hyo-glossus. The facial artery required a ligature, as it bled freely. After the division of the jaw, the tumor was forcibly drawn as much as possible outwards and downwards, but it was very difficult to move it much, in consequence of the irregularities on the inner surface of the tumor projecting into the deep muscles; one projecting portion, which ran up under the zygomatic process, and into the temporal muscle, it was found necessary to cut off with the bone-nippers, and this very much facilitated the rest of the operation. The jaw was now more easily everted, turning on its articulation; and, this being divided with the deeper muscles, the operation was soon completed. The edges of the wound were brought together by sutures, and the patient placed in bed, being rather faint from loss of blood.

All went on well subsequently to the operation, and he left the hospital some two months afterwards, quite recovered.

The tumor weighs, after maceration, rather more than seven ounces and a half, and is larger than a man's fist, its largest circumference being between nine and ten inches; its surface is very irregular, nodulated, and fissured deeply at those parts where muscles were attached to the bone, the bottom of these fissures presenting the surface of the bone healthy. The disease does not extend quite to the symphysis, but has almost surrounded the condyle of the jaw; the last molar tooth has been forced partially out just above the angle of the jaw at the posterior edge of the ramus. The tumor consists of bone throughout, and is of a spongy character.

The most common form of tumors affecting these parts is of a malignant character; the fibrous, perhaps, come next in frequency; the osseous, though not uncommon, are the least frequent.

The deformity produced by this operation of removal of the lower jaw is certainly much less than that caused by the disease, and diminishes after the lapse of a little time.

Mr. F. H. **Hewett** exhibited a specimen of

Aneurism of the descending Aorta bursting into the Œsophagus.

The patient was a tailor, of spare but muscular conformation, who had always enjoyed good health, with the exception of a winter cough to which he had been subject for more than twenty years, and which was always aggravated by foggy weather. He was of active habits, and could walk rapidly and run upstairs without distress: had never complained of pain in the shoulder, left arm, or between the scapulæ, or of spasmodic dyspnœa. During the twelve months preceding his death he had experienced difficulty in swallowing fluids immediately after a fit of coughing; but at other times deglutition was easy. Latterly he would vomit sometimes, if compelled to exert himself immediately after a meal.

On the morning of the 23d of January, 1849, his wife, who had heard him coughing violently, went into his room to call him, and found him on his face on the floor, insensible, and covered with arterial blood. He rallied a little, and recovered consciousness. At the end of 48 hours he threw up about a pint of tolerably florid blood. The front of the chest (the only part which could be examined, owing to his collapsed state) was found to be universally resonant, the lung appearing to overlap the heart; inspiration good; expiration rather prolonged, and very slightly wheezing; no moist crepitation could be detected. Turpentine brought away several pitchy stools. The vomiting of blood always more or less florid recurred three times, at intervals of about 24 hours, and the patient sunk on the fifth day.

Post-mortem, 24 *hours after death.*—No pleuritic adhesions; left lung crepitant, pale, and slightly emphysematous; lower part of right lung of a reddish-brown colour, slightly fleshy, and gorged with frothy serum; pieces cut out of this portion floated in water; heart of about average size; left ventricle very firmly contracted, its walls about three-quarters of an inch in thickness; no contraction or thickening of, or deposit upon, mitral or aortic valves. There was a good deal of atheromatous deposit in the arch of the aorta; and at one spot, opposite the origin of the left carotid and innominata, the middle coat of the vessel seemed wanting. A little more than an inch beyond the left subclavian was the opening into the aneurismal pouch, about as large as a half-crown; the sac itself was of the size of a small apple; at the bottom of it were some loosely adherent coagula surrounding an opening about a quarter of an inch in diameter, which communicated directly with the œsophagus; there was a good deal of osseous deposit in the walls of the sac, which adhered very firmly to the œsophagus, left bronchus, and spine: in detaching it from the latter it was lacerated. A branch of the left pneumogastric nerve was flattened and spread out upon the surface of the sac, and closely adherent to it.

Dr. Parkes exhibited a preparation showing a

Wound of the Œsophagus, and Perforation of the Pericardium.

An athletic and perfectly healthy young man, a juggler, aged 19, who had never suffered from rheumatism or from palpitation of the heart, on the evening of the 24th of January was exhibiting the trick of swallowing a sword. The sword was made of a piece of iron, about two feet long, ¾ of an inch broad, and round and blunt at the extremity. When it had passed down nearly to the root of the neck, the juggler felt it strike against some obstacle. As he had previously failed in exhibiting the trick, he was anxious to succeed, and therefore pushed the sword violently past the obstacle. Immediately afterwards he withdrew the sword, gave a sudden leap into the air, then fell, and fainted. When he recovered from the faint he vomited violently; the vomited matters consisted of the contents of the stomach, but were without the slightest tinge of blood. Within half an hour he was admitted into University College Hospital. The nature of the symptoms he then presented will be best understood by a previous reference to the kind of injury he had inflicted on himself. Five and a half inches from the lower border of the pharynx the sword had struck on the anterior wall of the gullet, and had torn an opening, which, after death, was found to be about an inch in length, and several lines broad: all the coats of the œsophagus were penetrated, and the instrument had then apparently passed downwards, forwards, and a little inwards towards the pericardium. At least, after death a probe could be passed along a passage bounded by the aorta anteriorly, the left bronchus inferiorly and to the left, and the left pulmonary artery inferiorly and to the right, into the pericardium, at the angle formed by the reflection of the pericardium from the right auricle. It does not appear whether air and blood were in consequence effused into the pericardium; after death neither was found, but some of the symptoms seem to indicate that air, at any rate, either entered at the time or shortly afterwards, and had there been absorbed or had transcended through the walls of the pericardium, before or after death. The immediate consequence of the injury was intense and violent pericarditis, marked by its characteristic symptoms. An immense quantity of lymph was effused over the whole parietal and visceral pericardium, some of which may still be seen adhering. All the important vessels and organs in the neighbourhood were uninjured.

At the time of entering the hospital, thirty minutes after the accident, the juggler was still pale, perspiring, and nauseated. The pulse was only 47 per minute. He complained of acute pain in the cardiac region increased by full inspiration. On examination, a sharp but distinct pericardial friction sound was heard with the systole, at the apex of the heart. This was heard distinctly forty minutes after the occurrence of the accident, by a very able stethoscopist, Mr. Tidmas, the Physicians' Assistant, and by several other gentlemen. It seems probable that this was owing, even so soon after the accident, to an extremely rapid effusion of exudation matters, since it was traced up into a loud friction sound of the usual kind, which in a few hours extended from the apex to the base of the heart, and was doubtless attributable to the effused lymph found after death.

On the following day the friction sound was both diastolic and systolic, and was audible all over the cardiac region. It was also carried to an unusual degree along the arteries. Mixed with the friction was a peculiar kind of metallic rhonchus, carried up to the top of the sternum. The sounds of the heart were in themselves unaltered: the morbid sounds were quite unconnected with respiration. On very slight percussion over the pericardial regions, the sound was abnormally clear; by making the patient lie on his face, so as to bring the heart in contact with the walls of the chest, the percussion was dull. There was a terrible stabbing pain in the cardiac region; respirations quickened (thirty-six per minute); pulse about 100, intermittent.

On the following day the friction sound was still more marked; the peculiar rhonchus, which had become less audible on the afternoon of the 25th, had nearly disappeared. The clear note on percussion had also disappeared. The respirations were forty per minute, the pulse intermittent. He died in the evening.

Dr. **Williams** remarks, that the rapidity with which the friction sound was developed precluded, in his opinion, the possibility of its being due to the products of inflammation, and from some experiments he had performed some years ago upon animals, one object of which was to ascertain the cause of the friction sound, he had no doubt that the occurrence of this sound in the case just related was due to the effusion of blood within the pericardium; and that the circumstance of the situation of the sound not corresponding with the seat of the wound, which at first sight seemed to militate against this view, might be explained by the gravitation of the effused blood to the apex of the heart.

Dr. **Parkes** replied, that the rapidity with which inflammation and effusion upon the surface of serous membranes might take place, was yet to be determined; and owing to the circumstances of the sound not corresponding to the seat of the wound, and also to its being clearly traceable as proceeding upwards from the apex of the heart, as the inflammation spread over a larger surface, he was still inclined to believe the cause of the friction sound in this case to be pericardial inflammation.

MEDICAL SOCIETY OF LONDON.

Monday, February 5th and 12th, 1849.

Mr. Hancock, President.

Extirpation of Ovarian Tumors.

The Society has been occupied during its last two sittings with discussions on the nature and treatment of ovarian tumors, but more especially in reference to their removal by ovariotomy. Now, were we at this moment in a position to determine the real value of this operation? On one side it was contended that we were in possession of sufficient statistical evidence to show that the operation could be as safely resorted to as any other capital operation in surgery; that the result of the cases published showed the success to be more general than the failure; and that, in fact, we were warranted in placing this operation in the category of received proceedings in surgery. It was contended *contrà*, that the evidence exhibited by operators themselves, and by their friends, warranted no such conclusion; that the cases of successful interference by the knife had not given a reasonable plea for ranking the operation among ordinary ones; that many persons had died after the removal of the tumor; that, in other cases, the abdomen had been cut into, and adhesions of so extensive a kind found to exist, as to preclude the possibility of removing the cyst; again, that on opening the abdominal cavity, no tumor, in some cases, had been found; but above all, that the statistics of the operation had been, as far as possible, one-sided; that the journals some time since had teemed with cases of the successful removal of ovarian tumors, while at present, as was well known, many untoward cases had occurred, but had never seen the light. Hence the present statistical evidence was only likely to mislead. The case recorded by Mr. Harvey at a former meeting, showed the difficulty of diagnosis in some cases, and was a valuable contribution to pathology.

Lemon-Juice in Rheumatism and Gout.

Dr. **Theophilus Thompson** had lately employed lemon-juice in rheumatism and gout with marked benefit. He was induced to do so at the recommendation of Dr. G. O. Rees, who had assured him of its usefulness, and who had explained its action, by considering that it was the best agent for insinuating carbon into the blood. The first case in which he (Dr. Thompson) had employed it, was one of sub-acute rheumatism in a delicate woman. She had all the usual symptoms of the disease, with an irritable, but not inflamed heart. There was profuse perspiration. The disease, when he saw her, had existed for four days. He gave her half an ounce of lemon-juice, with a little henbane, in about an ounce of camphor mixture, every six hours. In forty-eight hours the pain was much relieved, and the fever abated, and in five days she was well. He had employed it in other cases connected with phthisis in the Hospital for Consumption. In some of these cases there were cavities in the lungs, and in these lemon-juice had been found of great service. He should be induced to try it in almost all cases of rheumatism, but not in true gout. In acute rheumatism after bleeding, he should also employ it, of course in all cases paying attention to the primæ viæ.

Dr. **Bowie** had tried mineral acids in rheumatic cases at the Consumption Hospital, but was obliged to leave them off. He never saw any benefit from them.

Mr. **Shearley** had used lemon-juice in gout and rheumatism with much benefit.

Dr. **Downing** was surprised that acids should be of service in rheumatism. He had always found them do harm; even lemon-juice was injurious. The French authors had lately been writing much in favour of alkaline remedies. They applied alkalies, such as the carbonate of soda, externally, with benefit.

Mr. **Hird** said, that notwithstanding the success of lemon-juice in rheumatism, he should still be inclined to follow out the old plan of treatment. Tonics were often advisable.

The **President** said that Dr. Rowland had informed him of a case of calculus in the bladder, in which all remedies failed in affording relief; under a course of lemon-juice the patient got quite well.

Dr. **Willshire** said that he objected to the treatment of cases of rheumatism merely on the chemical theory of altering the condition of the blood by chemical agents. The first indication was undoubtedly to correct any disorder of the liver and correlative organs. After this he considered that lemon-juice might be employed.

WESTMINSTER MEDICAL SOCIETY.

Saturday, Feb. 10, 1849.

Mr. Hird, President.

Mr. B. **Travers** briefly related a case which he had lately seen at the Cape of Good Hope. A woman of the middle age, of a soft, flabby texture, a widow, was seized with vomiting of a large quantity of blood. Some medicines were given her, she rallied, the surface becoming warm. In a few hours, however, a second attack came on, and she died. On examination after death, the stomach was found distended with a large quantity of blood, and on tracing it to its source it was found to come from a round circumscribed hole, such as is found in cases of chlorosis; this was found, on careful examination, to communicate by ulceration with the inferior gastric artery, by an opening which would have admitted the end of a blow-pipe. The blood vomited was more in the condition of a recent clot than is usual in hæmatemesis.

Dr. **Ogier Ward** related the case of a chlorotic female who had long been the subject of dyspeptic symptoms. She was seized with hæmatemesis and died; an oval ulcer was found communicating with the splenic artery.

Dr. **Lankester** said, that it would be desirable, if possible, to determine the differences that existed between blood in common cases of hæmatemesis, and those cases in which some artery was involved. Perhaps the microscope might determine this.

Mr. **Hird** related a case in which a man vomited up three pints of clotted blood. It was thought that some artery was involved, but the man recovered.

Mr. **Love** detailed briefly a case in which a large quantity of blood was vomited up. It was clotted, and of a bright red colour. The patient had suffered from pain on taking food. The case was regarded as one of ulceration of the stomach. Under the use of astringents and nitrate of silver the man recovered.

A case was afterwards related of much interest; but, unfortunately, in consequence of there being no post-mortem examination, it was inconclusive, and the discussion respecting its nature was a mere speculation.

ROYAL INSTITUTION.

February 24, 1849.

The Rev. J. Barlow on Mr. Phillips' *Fire-Annihilator*.

The lecturer first explained the nature of flame, with particular reference to the following points:—that flame is due to the chemical combination with heat of two gaseous bodies, one serving as the supporter of combustion to the other; that when solid or liquid bodies burn, the flame does not proceed from the body itself, but from the gas escaping from the body, as in the combustion of ether or camphor; and that when combustion takes place, gases are produced which are incapable of supporting combustion, and therefore tend to extinguish flame. Mr. Barlow then showed that steam would not support combustion, and that a jet of steam played upon flame would speedily extinguish it. This he illustrated very successfully by extinguishing gas lights, and the flame of burning turpentine, by playing on them a strong jet of steam.

Mr. Phillips' fire-annihilator acts by the almost instantaneous production of a large amount of steam, mixed with the products of combustion, which being thrown upon the flames, speedily causes their extinction. The apparatus for producing the steam is like a covered pitcher; within this is a cylinder nearly equal in size, and between the two vessels is a space which receives a thin sheet of water. The vessel can be made air-tight. The water is converted in a few seconds into steam by the rapid and intense combustion of an inflammable ball, which is contained in a peculiar receptacle in the inner vessel. This ball is composed of charcoal 20 parts, nitre 60, gypsum 5, and water 15; and the composition is thoroughly dried before use.

When ignited, it burns very rapidly, producing intense heat; but it cannot be inflamed by a candle, or any means short of a white heat. This degree of heat is produced by the combustion of equal parts of chlorate of potash and sugar; and this composition is ignited by means of sulphuric acid. A very ingenious arrangement secures the combustion of the substances, and the consequent generation of steam. Above the combustible ball is a glass tube, containing chlorate of potash and sugar; and in connexion with this a small bottle containing sulphuric acid. A rod, with a spring, is so adjusted over the acid, that when the rod, which projects from the top of the apparatus, is struck home, the bottle of sulphuric acid is broken; the acid ignites the chlorate of potash and sugar, which in turn ignites the combustible ball; and this produces, in from two to three seconds, an abundance of steam and non-inflammable vapour under great pressure. This vapour can be ejected by a tube closed with a stop-cock. The interiors of two models of houses, and of the model of a ship, were, at the end of the lecture, thoroughly set on fire, and Mr. Phillips, by throwing on the flames, which were extensive and high, the powerful jet of steam, from a small model fire annihilator, quickly extinguished the fires. If practicable, the stream of vapour from the fire-annihilator must be played upon the flames, otherwise the annihilator may be thrown into the room in the direction of the fire.

The fire-annihilator unquestionably speedily extinguishes fire when used in the manner shown, by playing a jet of steam on the flames; but it appears somewhat questionable whether the apparatus would be equally efficient if merely thrown into a room. Under these circumstances, in addition to the fire-annihilator, water, which itself when thrown on the fire will generate steam, ought to be employed.

It is probable that this instrument will be found useful in extinguishing those fires which are of small extent in a closed apartment, and which can be approached within a few feet. It cannot be substituted for a fire-engine in a house thoroughly ignited, nor can it be efficiently used in those cases in which the air has free access, since the currents of air which rush to the burning mass would speedily diffuse the vapour of the fire-annihilator, and prevent its action in arresting combustion. Such an apparatus could not, of course, cut off the access of oxygen in a large fire in a street, and without this it would be inefficacious. In fires which occur in small rooms, or in the holds of vessels, from the accidental or spontaneous ignition of the cargoes, it would be eminently serviceable. It would be merely necessary to keep all apertures closed, except that by which the vapour of the fire-annihilator was introduced, and the fire would be speedily extinguished. The invention is well deserving the attention of the proprietors of ships, especially of steam-vessels. Two or three of the larger varieties of apparatus, which may be kept ready charged for use without risk or danger, would suffice, if applied early, to extinguish, in a few minutes, a fire in a cabin or in the hold of a vessel, and thus save human life under the most terrible of calamities.

Medical Trials and Inquests.

THE COUNTY COURTS AVAILABLE FOR THE SUPPRESSION OF ILLEGAL PRACTICE.

COUNTY COURT OF MIDDLESEX.

Friday, Feb. 28.

The Apothecaries' Company v. *Lobo.*

This was an action brought by the Master and Wardens of the Apothecaries' Company against Raphael Louis Bobo for the recovery of a penalty of £20, forfeited by him for practising as an apothecary, contrary to the provisions of the 55th George III. c. 194. The case is of the greatest importance, as establishing a precedent for a new and more efficacious mode of proceeding against unqualified medical practitioners who have hitherto evaded the law by reason of the expense incurred in suing them for penalties in the superior courts at Westminster.

Mr. J. A. Griffiths appeared as counsel for the plaintiffs, and Mr. Lobo conducted his own defence.

The defendant took a preliminary objection on the ground of misnomer, but the learned Judge having directed the record to be amended, the case proceeded.

Mr. Griffiths said that he availed himself of the valuable jurisdiction of the County Court to recover from the defendant the penalty of £20, which all persons illegally practising as apothecaries were liable to under the 55th George III. c. 194. The plaint was laid under the 20th clause of that Act.

Mr. Serjeant Heath asked the learned counsel if he was quite sure that the Court had jurisdiction in the matter, as he was not quite satisfied on that head.

Mr. Griffiths quoted the case of "The Apothecaries' Company v. Lolinga," 2 M. and R. p. 499, in which Mr. Justice Cresswell defined an apothecary as a person who professed to judge of internal disease by its symptoms, and applied himself to its cure by medicines. In "Woodward *v.* Ball," Car. and Payne, p. 578, Mr. Justice Williams held that the practising as an apothecary was the mixing up and preparing of medicines prescribed by the party who did so. The County Courts were courts of record, and the 26th clause of the 53d George III. c. 194, gave the Apothecaries' Company power to proceed against unqualified apothecaries, by action or suit at law, for penalties to the amount of £20. The sooner the question was decided the better, both for the profession and the public, who were equally interested that proper securities should be afforded for the employment of regularly qualified medical men. In the case of "The Apothecaries' Company *v.* Allen," 4 Bar. and Ad. p. 626, Lord Denman said that a person compounding medicines and selling them, though he did not make out prescriptions like a physician, nor kept a shop, acted nevertheless as an apothecary, in the ordinary sense of the word, and that it made no difference if he prescribed as well as prepared his medicines. This opinion was confirmed by the whole Court, and might therefore be taken as settled law. He was instructed that the defendant had attended Alexander Reeves, and given the registrar of the district a certificate stating the cause of his death. The patient appeared only to have lived three days, which might, perhaps, lead to the inference that not only was there want of legal qualification, but also a great want of medical skill. The certificate contained a printed notice in these terms:—"If this form should fall into the hands of any unqualified practitioner, he is recommended not to fill it up."

Mr. Serjeant HEATH asked if the act provided that none but properly qualified apothecaries should sign such a certificate?

Mr. GRIFFITHS said it did not, but the practice was, that no registrar would knowingly receive a certificate from any but a duly qualified practitioner. There being some doubt entertained in this case as to the qualification of the defendant, a letter was written to him by the registrar, desiring to know by what authority he took upon himself to sign such certificates. To this he wrote in reply, alleging that he had obtained a diploma as doctor of medicine and surgery from the University of Giessen. He, therefore, had nothing but the certificate of a foreign university, which could not be made available in England; for there were cases to shew that even Scotch diplomas and certificates were not legal qualifications under the act, and this defence, therefore, could not be sustained. He had been instructed that the defendant admitted the charge, and had thrown himself upon the mercy of the plaintiffs.

Mr. Serjeant HEATH read, from a paper which had been handed in by the defendant, a statement by him, that he had made the admission alluded to upon the representation of Mr. Eyre, the solicitor for the plaintiffs, that if he did so, further proceedings should not be taken; but, having found that the Apothecaries' Company would not abandon their proceedings, he had thought proper to withdraw that admission and endeavour to defend himself.

The learned JUDGE said he was willing to accede to anything the parties desired, if it would meet the justice of the case.

Mr. GRIFFITHS said the Apothecaries' Company were a public body, and could not, consistently with their duty, enter into any compromise; but they had no wish to press the case with any degree of harshness against Mr. Lobo. They were, therefore, willing to take judgment for the penalty and the costs, the costs out of pocket only to be paid by the defendant. In the meantime no execution would be issued, the defendant promising not again to practise as an apothecary while he remained unqualified.

The defendant having assented to these terms,

Mr. Serjeant HEATH said—I think the Apothecaries' Company have acted very rightly in bringing this case before the public, and very rightly also in refusing to enter into any compromise. Let an order be made for the full amount of £20 and costs, to be taxed. On payment of taxed costs all proceedings to be stayed until further order of the Court. No order will be made unless it is shown to the Court that the defendant has broken his promise, in which case the judgment will be enforced.

⁂ We shall make some remarks on this novel proceeding in the next number of the journal.

Correspondence.

TO THE POOR-LAW SURGEONS OF ENGLAND AND WALES.

GENTLEMEN,—I beg permission to address a few words, and to observe to you that many of the circumstances stated at the meeting of Poor-law Medical Officers on Monday last gave me great concern; not only that they did occur, but that, under the present state of medical affairs, there was a presumed necessity for submitting to them until Parliament and the Government would cause them to be corrected.

Expressing my own individual feelings and sentiments merely, I would never submit to the humiliations and indignities which in many cases are inflicted on medical men in relation to pauper practice, but would be content with a private practice, however small, if it would afford me and my family a maintenance in decent comfort; and, if it was insufficient for that purpose, I would flee away, and take refuge in some Australasian region, where, taking spade in hand, or applying it to the plough, I would raise wherewith to subsist in the enjoyment of tranquillity of mind and health of body in an independence, rude though it might be.

In my humble opinion, however, there is no necessity for such an alternative, if the Poor-Law surgeons would take a wide and comprehensive, instead of a narrow view of their position; for I feel thoroughly assured that the Poor-Law medical officers are not sufficiently aware of the fact, that the real and ultimate cause—the fountain-head of all their grievances—is the disorganised state of the public affairs of the medical profession itself, which is almost a chaos, becoming daily worse and worse, if possible, from the creeping and crawling and intruding of ignorant, incompetent, and unauthorized men into medical practice.

That the attention of the Poor-Law surgeons is too exclusively absorbed in the contemplation of those grievances which more immediately beset them, and they do not, in my humble opinion, look beyond them to the original cause.

At the same time, therefore, that they ask to be relieved of the evils which more especially oppress them, they should seek medical reform *as a whole*, and should earnestly pray for it in the spirit at least of the resolution which was proposed, and was not submitted to the meeting on Monday, but is subjoined to this communication.

If the parties most immediately concerned should fear that the especial cause of the Poor-Law surgeons would be damaged, or at least endangered, by praying for the reform of the whole profession, I would say, that our great fault all along has been the manifestation of a low and cowardly spirit. Why, otherwise, occur many of those things of which we heard at the meeting, and which, with the pleadings *ad misericordiam* disgrace us amongst ourselves, and lower us in the estimation of the public and of parliament?

At the same time, therefore, that we seek redress for the grievances of which we so loudly complain, let us exert ourselves, by all the means in our power, to obtain the reform of the whole profession by some legislative measure grounded on the evidence taken before the Parliamentary Committee of the last session, as the only effectual cure for the social as well as professional evils which afflict all branches of the profession, the Poor-Law surgeons more especially.

I have the honour to remain,
Gentlemen,
Your very faithful servant,
THOMAS MARTIN.

Reigate, 24th Feb. 1849.

Resolution suggested by JAMES WYLD, Esq., M.P.

"That this meeting, while especially advocating the claims of the Poor-Law Medical Officers to relief as far as practicable from the numerous and oppressive grievances which peculiarly afflict themselves, is fully aware of the fact that manifold, dangerous, and daily-increasing evils are entailed upon the community by the anomalous state of the laws affecting the medical profession generally.

"That the evidence taken before the Parliamentary Committee bears ample proof of the correctness of the above declaration, all the witnesses coinciding in the opinion that a revision of those laws is absolutely necessary, as much for the advantage of the public interests, as for the peace and tranquillity of the medical profession.

"That this meeting, therefore, expresses an anxious desire that the Government will cause a Bill for the amendment of the laws affecting the medical profession, and for regulating medical practice in the United Kingdom, to be laid before Parliament with as little delay as possible; and that it be based upon the evidence taken before the Parliamentary Committee. And this meeting ventures still further to express a hope that the Government and the Legislature, in consideration of the important interests involved in the matter, may be induced to legislate forthwith upon the subject, so that an effective law may be enacted during the present session of Parliament."

Medical Intelligence.

RESOLUTIONS PASSED AT THE RECENT MEETING OF THE POOR LAW MEDICAL OFFICERS.

1st.—Moved by WM. LOBB, Esq.; seconded by PETER MARTIN, Esq., of Reigate, and unanimously resolved.—

"That the evidence laid before this Convention, and the correspondence of its Committee, prove an universal and increasing dissatisfaction among the Medical Officers of Unions; that how much soever the Poor Law Board may feel the necessity of altering the present vicious system of Poor Law

Medical Relief, they are so hampered by the Boards of Guardians, that they are unable to carry into operation the very measures which they have deemed to be right; there is therefore great cause for the Medical Profession, and the Poor Law Medical Staff more especially, to seek, directly from Parliament, redress from the hardship and injustice under which the sick poor and the Union surgeons are suffering while the present system continues: it is therefore urged that, as the Government at present pay half the medical salaries, it is expedient that it should pay the whole, and remove from Boards of Guardians the power to interfere with wise regulations and salutary improvements."

2nd.—Moved by John Liddle, Esq.; seconded by Jas. Lord, Esq.—

"That the plan for an improved system of Medical Relief suggested by the Committee of the Convention, and laid before the Government in their memorial to the Right Hon. Sir George Grey, contains the three important principles which are best calculated to render any system acceptable to the Medical Profession, and in the highest degree useful to the poor—viz. *payment proportioned to duties, permanence of appointment, and responsibility to professional authority.*"

3d.—Moved by Dr. Sibson; seconded by Edw. Bainbridge, Esq., of Tooting—

"That the Board of Health having imposed upon the Poor-law medical staff, through powers given in the 'Nuisance Removal and Diseases Prevention Act,' new duties of a distinct kind relating to sanitary purposes, without providing payment for the same, this meeting claims protection against such exaction."

4th.—Moved by Edw. Daniell, Esq., of Newport Pagnell; seconded by H. W. Livett, Esq., of Wells, Somerset—

"That a Petition be presented to Parliament, praying the Legislature to pass an Act embodying the principles alluded to in the previous Resolutions, and that the members of the medical profession, the Poor-law medical staff more especially, and all others interested in behalf of the sick poor, in improving the present system of Poor-law medical relief, be requested to use their utmost personal influence with members of Parliament for the attainment of this object."

5th.—Moved by Wm. Cantrell, Esq., of Wirksworth; seconded by — Soden, Esq., late of Bath—

"That a Committee shall still be maintained, for which purpose the following gentlemen be re-appointed, with power to add to their number:—

"*Chairman.*—Thomas Hodgkin, M.D., Lower Brook Street, Grosvenor Square; *Treasurer.*—Thos. Martin, Esq., Reigate; *Hon. Sec.*—Chas. F. J. Lord, Esq., Hampstead. *Members.*—Adolphus Barnett, Esq., Limehouse; John Liddle, Esq., Alie Place, Goodman's Fields; William Lobb, Esq., Aldersgate Street; George Ross, Esq., Farringdon Street; Joshua Thos. Mitchell, Esq., Kennington; Jas. F. Vallance, Esq., Stratford; Edward White, Esq., Lamb's Conduit Street; Jas. Heygate, Esq., M.D., Derby; Peter Martin, Esq., Reigate; Edw. Boulger, Esq., Blechingley; Geo. Bottomley, Esq., Croydon; Wm. Cantrell, Esq., Wirksworth, Derby; Edw. Daniell, Esq., Newport Pagnell; Alfred Ebsworth, Esq., Bullwell, Notts; John Burton, Esq., M.D., Walsall, Stafford; Thos. Parker, Esq., Woburn, Beds; Rd. Thos. Tasker, Esq., Melbourne, Derby; H. W. Livett, Esq., Wells, Somerset; John A. Pearson, Esq., Woolton, Liverpool; Jas. Steadman, Esq., Guildford; Thos. H. Smith, Esq., St. Mary's Cray.

"And that it is essentially necessary that a more liberal contribution be solicited from the Poor-law medical staff and profession generally, to sustain the objects of the Convention, otherwise it will be impossible for the Committee to continue their exertions."

6th.—Moved by C. M. Thompson, Esq., Westerham; seconded by Jas. Stedman, Esq., Guildford—

"That this Convention publicly records its sense of obligation to the Colleges of Physicians and Surgeons, the Society of Apothecaries, and very prominently the National Institute of Medicine, Surgery, and Midwifery, and the Provincial Medical and Surgical Association, as also to the Medical and General Press, for the support which all have rendered to the Poor-Law Medical Officers and the sick poor, a continuation of which co-operation and advocacy is earnestly requested, until the objects of the Convention shall be happily realized."

7th.—Moved by J. Vallance, Esq., of Stratford; seconded by Dr. Barnett—

"That the thanks of this meeting are eminently due, and are hereby given, to its noble chairman, Lord Ashley, for his unceasing efforts to benefit the sick poor. And having full confidence in his lordship as to his desire to see justice done to medical officers of unions, this meeting earnestly requests his lordship to kindly undertake the advocacy of the cause of the sick poor, and of the Poor-Law Medical Officers, in Parliament or otherwise, in such manner as to his lordship may seem most advisable, in order to obtain a final adjustment of the long agitated question of Poor-Law medical relief."

8th.—Moved by Wm. Lobb, Esq.; seconded by Chas. F. J. Lord, Esq.—

"That the thanks of this meeting are eminently due, and are hereby given, to Dr. Hodgkin for his urbane and able conduct in the chair of the Committee, and for his long advocacy of the cause of the Poor-Law Medical Staff."

CHOLERA IN BELFAST.

The cholera shows no signs of abatement, the number of cases daily continuing in the same ratio, and the cures being little more than the deaths. On Saturday—new cases 15, deaths 9, recoveries 10; on Sunday—new cases 20, deaths 6, recoveries 8; on Monday—new cases 18, deaths 5, recoveries 13; and on Tuesday—new cases 13, deaths 12, recoveries 3. Total number of cases since commencement 528, deaths 191, recoveries 225; remaining under treatment 112.

ABOLITION OF BURIAL IN TOWNS.

A meeting was recently held at the residence of Mr. W. A. Mackinnon, M.P., Hyde Park Place, for the adoption of measures to effect the immediate abolition of intramural burial. Mr. Mackinnon having stated the object of the meeting, Mr. Walker detailed his views, and adduced several additional and impressive facts, proving the injury to the public health from the practice of burying the dead among the living. Mr. George Ross, surgeon, gave some recent evidence of the shocking condition of the pauper grave-yard in Farringdon Street, where, he said, the constant desecration of the remains of the dead had so shocked the surrounding inhabitants that individuals had fainted at the sight and from the stench. Mr. Mackinnon believed that the Government were anxious, if assisted by out-door pressure, to abolish such shocking and destructive practices. In this sentiment the meeting fully concurred, and several present expressed their conviction that the Government, from the repeated pledges given during several past sessions, were bound to redeem their promise. Mr. Horsman declared himself the unqualified opponent of the practice, and undertook to ask the Government at the earliest opportunity to state their intentions on the subject. Mr. Walker stated that a public meeting would shortly be held to petition both Houses of Parliament to close all grave-yards in cities and towns, and to prohibit the practice of burying the dead in lead in vaults under churches and chapels. Messrs. C. Stansfield, B. B. Cabbell, J. J. Briscoe, L. J. Hansard, and the Hon. Mr. Byng, having expressed their views, the meeting separated.

Selections from Journals.

PHARMACEUTICAL CHEMISTRY.

IODATE OF POTASH AS AN IMPURITY IN IODIDE OF POTASSIUM. INJURIOUS EFFECTS OF THE IODATE. BY MM. LEPAGE AND LERAY.

The presence of iodate of potash as an adulteration of the iodide of potassium is usually attributed to the calcination not being continued sufficiently long to transform the iodate completely into iodide. However this may be, it is an object of importance to detect the presence of this impurity. A process, at once simple, prompt, and exact, is suggested for its detection. Take a few grains of the salt, powder it in a glass mortar, put it into a watch glass, and add to it seven or eight drops of a weak solution of sulphurous acid. If the iodide be pure, it will dissolve in the acid without discoloration, or at most with only a faint amber tint. If any iodate be present, there will result a reddish-brown solution of iodine in iodide of potassium, the colour of which will be deeper in proportion to the greater quantity of the iodate present. It is to be observed that in applying this test care must be taken not to add too much sulphurous acid, or the iodine will be re-dissolved and converted into hydriodic acid, and the colour discharged, when the impure will not of course be distinguished from the pure variety. $I + SO^2 + HO = HI + SO^3$. If this precaution be observed a very minute proportion, of iodate may be detected.

Note.—The property which sulphurous acid possesses of converting iodine into hydriodic acid will also serve to detect the presence of adulteration of iodine by plumbago and other substances. M. Leroy describes a case in which, having prescribed iodide of potassium for a patient, nausea and vomiting were produced, with general indisposition and sore throat; a continuance in the use of the medicine caused headache, and a feeling as if the head were increased in size. On making an investigation into the case, and submitting the mixture to chemical examination, it was found that the iodide, a solution of which in distilled water had been prescribed, contained a large admixture of iodate, and that iodine had been set free by the unintentional presence of a small proportion of free acid in the distilled water which had been used.

This case affords a practical illustration of the occasional adulteration of an important medicine, and of the injurious effects which may thereby be produced. — *Journal de Chimie Médicale*, Oct. 1848. x

⁂ There is nothing very novel in this suggestion. The method commonly employed by chemists to detect traces of iodate in an iodide, is to add to a solution of the suspected salt a small quantity of starch, and then sulphurous acid. An intense blue colour is immediately brought out. In a pure solution of iodide, the starch undergoes no change of colour. On the other hand, an iodide may be detected in a solution of iodate by the addition of starch and strong nitric acid.

ON THE ABSORPTION AND ELIMINATION OF ARSENIC BY PLANTS.

M. Filhol, Professor of Chemistry and Pharmacy at Toulouse, has instituted a series of experiments to determine the conditions and effects of the absorption of arsenical compounds in plants. The results of these experiments confirm, but do not add much to, the previously recorded-investigations of M. Chalin.

The compounds of arsenic employed in these experiments have been the arsenious and arsenic acids, the latter being more quickly absorbed.

The fact of the absorption of arsenic being established, the first point to be determined is, whether it is equally distributed to different parts of the plants. M. Filhol has separately examined the stems, the leaves, the placenta, the petals, and the fruit, of a great number of plants of helianthus annuus.

The facts ascertained are, that—

1st. The placenta, or interior of the pericarp (receptaculum), contains more arsenic than all other parts of the plant.

2d. The leaves come next.

3d. The fruit contains less than leaves.

4th. The stem less than the fruit.

5th. The petals less than the stems.

It appeared, also, that this distribution was in some degree proportionate to the state of development of the several organs at the time of instituting the experiment: that, for instance, the fruit yielded a much greater quantity of arsenic, in equal weights of plants which had been watered with the arsenical solution when their fruit was far from ripeness, than in those watered by a similar solution when nearly ripe.

The effect produced, also varied with the nature of the compound employed, the arsenic acid being, as already stated, more rapidly absorbed than the arsenious.

In some plants of ranunculus sceleratus watered with solution of arsenic acid, the young fruit had faded at the end of twenty-four hours, while the riper fruit showed no sign of failure: the young fruit containing a greater proportion of poison, showed the irregularity of its distribution in proportion to the state of development.

The elimination of the poison by the roots was proved by the removal of the plants, as soon as they showed signs of the action of the poison, from the pots in which they had been watered by solution of arsenic, watering their roots, replanting them in earth free from arsenic, watering them with pure water, and in twelve hours afterwards testing the earth at their roots, where arsenic was found to be present, having clearly been eliminated by the roots.—*Journal de Chimie Médicale*, 1848. x

ON THE BENEFICIAL EFFECTS OF STRYCHNINE IN PARALYSIS OF THE ARM. BY DR. W. A. DUNCAN.

Mary Dunne, æt. 25, of rather delicate habit, consulted me on the 23rd of October, and stated that on awaking on the morning of the 11th of September previous, she found her arm quite numbed and powerless, with a sense of prickling, extending from the shoulder to the fingers. In a few days after this she applied to a notorious "bone-setter," who immediately commenced by dragging and twisting her arm; and not succeeding in giving her any relief, he had the shoulder twice blistered, and had directed several liniments, all of which failing to be of any benefit, she applied to me.

The arm is now considerably wasted; the deltoid flabby and flattened; has no power whatever of raising the arm, and can only partially flex the fingers; the arm feels much colder than on the opposite side; health in every other respect good.

Considering this to be a fit case to try the effects of strychnine, I had a blister applied to the shoulder, extending inwards over the axillary plexus of nerves,—to be left on for sixteen hours. I then removed the cuticle, and sprinkled one-fourth of a grain of strychnine over the vesicated surface, and over this a simple dressing.

I had the quarter grain of strychnine sprinkled each day for the six succeeding days, at the end of which time some improvement was found in the arm; feeling in the arm somewhat stronger, and sense of touch better; can flex the fingers a little better; the blister had healed. I now directed the following :—℞ Strychninæ, gr. ij.; Aceti distillat. ℥iv.—Ft. solutio cujus sumat guttas xx. ex aquæ cyath. bis in die.

November the 4th.—Feels the arm gradually increasing in strength; can now flex the fingers tolerably well; can partially raise the arm, and it feels less cold; health good. —Cont. solut. strychninæ.

9th. Arm gradually improving. I now directed another blister to the shoulder as before, and sprinkled half a grain of strychnine on the vesicated surface, and continued to sprinkle a fourth of a grain daily for six days, at the end of which time she felt the arm getting very strong; sense of touch much better; numbness quite gone; can now flex the fingers very well; can use the arm much better; the strychnine has not as yet produced any unpleasant symptoms.

15th. Improving steadily; discontinued the sprinkling; blister nearly healed.—Cont. solut. strychninæ; Capt. gutt. xx. ter die.

21st. Complains this day of giddiness of head, cramps in the extremities, and sense of tightness across the sternum; arm and hand feel very strong, and is able to flex the fingers very well, and even to grasp objects with some force.—Omitr. solut. strychninæ; ℞. Tincturæ opii, ʒss.; Mist. camph. ℥j.; Syr. simp. ʒij.—M. fiat haust. capt. statim.

22nd. Cramps and uneasiness nearly gone; feels the arm now as strong as ever, and can do anything with it.—Reptr. haustus sedativus.

23rd. All uneasiness quite gone, and feels the arm as if nothing had been wrong; can raise and grasps objects almost as well as ever. From this date it improved daily, and she is now engaged as a servant where she has to use her arm very much.—*Dublin Medical Press*, 1848.

BOOKS & PERIODICALS RECEIVED

FOR REVIEW.

(The List will be given in our next No.)

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer	29·81
,, ,, ,, Thermometer[a]	45·4
Self-registering do.[b] .... Max. 69°	Min. 30°

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, ·67.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 7·4° *above* the mean of the month.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Feb. 24.

BIRTHS.	DEATHS.	*Av. of* 5 *Wks.*
Males.... 735	Males.... 605	Males.... 592
Females.. 755	Females.. 586	Females.. 577
1490	1191	1169

CAUSES OF DEATH.		*Av. of* 5 *Wks.*
ALL CAUSES	1191	1169
SPECIFIED CAUSES	1176	1164
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*..	318	221
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	53	54
3. Brain, Spinal Marrow, Nerves, and Senses	132	141
4. Heart and Bloodvessels	39	40
5. Lungs, and other Organs of Respiration	239	243
6. Stomach, Liver, and other Organs of Digestion	53	67
7. Diseases of the Kidneys, &c...	10	13
8. Childbirth, Diseases of the Uterus, &c.	7	9
9. Rheumatism, Diseases of the Bones, Joints, &c.	10	7
10. Skin	0	
11. Old Age......................	46	73
12. Sudden deaths	9	14
13. Violence, Privation, Cold, &c.	47	37

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	20	Convulsions	38
Measles	16	Bronchitis	118
Scarlatina	50	Pneumonia	88
Hooping-cough ..	76	Phthisis	128
Diarrhœa	23	Dis. of Lungs, &c..	12
Cholera	40	Teething	10
Typhus	53		
Dropsy	24	Dis. of Stomach, &c.	5
		,, Liver, &c...	8
Hydrocephalus....	28		
Apoplexy..........	21	Childbirth	5
Paralysis	22	Uterus............	1

REMARKS.—The total number of deaths was only 22 above the weekly winter average.

NOTICES TO CORRESPONDENTS.

The communications of Dr. A. Clark and Dr. Dick will be inserted in the following number.

Dr. Snow's paper, in continuation, has been received, and will have early insertion.

Will Dr. Wardell favour us with the first of his promised papers?

Hassall's "Microscopical Anatomy."—Another part (Part 14) is required to complete the work. We shall then give another notice.

RECEIVED.—Dr. R. H. A. Hunter, St. Vincents, W. I.—Mr. Burchell.—Dr. Daly.

THE GENERAL INDEX.

We have to announce to our Subscribers that a GENERAL INDEX to the *first* 40 *Volumes* of the LONDON MEDICAL GAZETTE will, it is calculated, form a large Volume of about 700 pages. The cost of the INDEX VOLUME, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. WILSON AND OGILVY, 57, Skinner Street, will receive the Names of Subscribers.

Lectures.

LECTURES ON PRETERNATURAL AND COMPLEX PARTURITION.

By Edward W. Murphy, A.M. M.D.
Professor of Midwifery, University College, London.

Lecture X.

RUPTURES OF THE UTERUS.

Ruptures that occur during parturition—Seat of the laceration variable—generally in the cervix, either anteriorly or posteriorly—Laceration partial or complete—Ruptures may occur in the first or in any subsequent labour—they are more frequent with male children—the pelvis generally contracted—Statistical evidence that the accident happens more frequently in short than in protracted labours—Causes of rupture—mechanical and morbid.

Mechanical causes—from disproportion in the pelvis—from violence in the use of instruments—in turning the child—from ergot of rye—Pathological causes—partial atrophy of the uterus—cases in illustration—Softening of the uterus—cases—Cracks in the peritoneum—examples—Cases of Mr. White, Mr. Partridge, Dr. J. Ramsbotham, Sir Charles Clark, &c.

Gentlemen,—*Rupture of the uterus* is the most fatal complication of labour that we have to consider. When this accident occurs the case is so hopeless that a recovery is very promptly published, because it is a remarkable exception to a general rule. Some years ago the profession looked upon any mode of treatment with despair. Smellie laid it down that nothing could be done, and we find one of his pupils, in his details of a case of ruptured uterus, stating, with evident satisfaction, "According to your prudent advice, I spoke nothing of the matter, but pronounced her a dead woman."* The great fatality of this accident led Denbetter chance of recovery by resigning the case to the natural efforts of the constitution than by any operation or interposition of art."† If we were thus to decide upon these man also to argue: "when the uterus is ruptured at the time of labour, both reason and experience show that the patient has a embarrassing cases, if we were to pass such a summary judgment upon them as Smellie seems to have done, I should be saved the very difficult task of determining some very important questions connected with their proper treatment. Some recoveries, however, have taken place, and as, in other cases, it appears to me that a different treatment might have been attended with more success, a careful examination of the whole subject is necessary.

Ruptures of the uterus may occur either during pregnancy or labour: we shall direct your attention to those lacerations only that happen during parturition; and having explained to you the manner in which they occur, the causes that appear to produce them, and the symptoms which they generally present, we shall enter upon the very difficult question of their proper treatment.

The seat of the laceration is variable: most commonly it is found at the junction of the cervix uteri and vagina; it may engage the cervix alone, or extend through both it and the vagina; sometimes the vagina only is ruptured. When the cervix is torn it is generally either anteriorly opposite the pubis or linea-ileo-pectinea, or posteriorly opposite the promontory of the sacrum; it may, however, be rent at the sides, and occasionally the laceration extends through the fundus. The rent may be upwards, and is then generally oblique, but sometimes it is transverse: thus, the cervix has been completely torn from the body of the uterus, the vagina from the cervix. A very valuable monograph on this accident has been published by Dr. Trask,‡ to which we shall have often to refer. He has collected from all sources not less than 303 cases of rupture, in 128 of which, occurring during parturition, the situation of the rent is given thus:—

15 from cervix to fundus,
14 of the anterior part,
7 of the left side,
2 of the body of the uterus,
7 were transverse,
11 were of the fundus,
13 of the posterior part of the uterus,
8 of the right side,
2 of the vagina,
2 involved the bladder,
47 were at the cervix, either involving the vagina or a separation from it.

The laceration may be partial or complete.—In some instances the muscular fibres alone give way, leaving the peritoneum uninjured; in others the peritoneum and a few of the external fibres of the uterus are torn. Sir C. Clarke, Dr. J. Ramsbotham, Drs. Collins, Lever, and others, relate cases of this kind, and describe the appearance of

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* Smellie, vol. iii. p. 386.
† Denman's Essay on Ruptured Uterus, p. 17.
‡ American Journal of Medical Sciences, vol. xli. p. 398.

the posterior surface of the uterus presenting a number of transverse fissures as if the peritoneum had been cut with a knife. In the majority of cases, however, the rent passes through all the structures.

Ruptures may occur in the first or in any subsequent labour.—It is generally supposed that they are very rare in first pregnancies, and judging from the opportunity that I had of observing these cases, my own conviction was in favour of this opinion, but the more extensive researches of Dr. Trask on this subject must lead us to a different conclusion. He has shown that first labours are equally, if not more, liable to this accident. He gives a table in which the number of pregnancies are marked, and the number of lacerations given under each head, thus:—

Dr. Trask's Table of 172 *Cases of Rupture occurring during Parturition.*

No. of pregnancy.	1	2	3	4	5	6	7	8	9	10	11	12	13	several
No. of cases . .	24	18	17	21	18	16	9	5	5	9	8	3	2	17

Dr. Collins' Report of 34 *Cases presents a similar result:*—

No. of pregnancy.	1	2	3	4	5	6	7	8	9	10	11
No. of cases . .	7	6	6	2	2	5	0	1	1	2	2

From these tables it appears that if each pregnancy be taken separately, a larger number of ruptures are found to occur in the first than in any other; but if all subsequent pregnancies be taken collectively, their united numbers of course preponderate considerably: thus, in Dr. Trask's tables there are 24 first labours and 148 subsequent deliveries. In Dr. Collins' report, 7 first and 27 subsequent labours. You will perceive at a glance that if we were to compare those cases of rupture occurring in a first labour with all the others taken collectively, we should be led into an erroneous conclusion, and that the former are very far from having any immunity from these accidents.

Ruptures are more frequent in giving birth to male than to female children.—The reports of Dr. Collins and Drs. Hardy and M'Clintock prove that lacerations with male births are nearly in the proportion of three to one female birth.

	Boys.	Girls.	Total.
Dr. Collins' cases	23	10	33
Drs. Hardy and M'Clintock . .	8	1	9
Total	31	11	42

Thus, in 42 cases, 31 boys were delivered and only 11 girls.

Statistical results further demonstrate that *disproportion in the pelvis very generally exists.* The character of the pelvis is recorded by Dr. Trask in in 79 cases, and of these 68 were contracted and only 11 normal. These three facts—a first labour, a male child, and a contracted pelvis—being found so frequently in connection with rupture of the uterus, the conclusion might readily be drawn, that protracted labours predispose to this accident: we have the conditions that render labour difficult, and, if difficult, protracted: the natural inference, therefore, is, that protracted labours are peculiarly exposed to a hazard of this kind; yet such is not the fact. Dr. Trask has also supplied us with tables showing the duration of labour in 87 cases of rupture, and we find the following results:—

36 cases were in labour 10 hours and under.
21 ,, ,, 20 ,, ,,
15 ,, ,, 30 ,, ,,
7 ,, ,, 40 ,, ,,
8 ,, ,, 60 ,, and upwards.

You perceive that the majority of ruptures happened where there was no protraction of labour, confirming the remark of Dr. Collins on this point, who observes:—"By referring to the general table, it will be seen that *seven* of the 34 were first pregnancies, and that in several of them the labour was not by any means severe, *but rather the contrary.*"* We cannot, therefore, justly assign protracted labour as a prominent cause of ruptured uterus. You may also observe that, although these lacerations are more numerous in first labours, the difference between the first and any subsequent delivery is not great. All labours seem to be nearly equally liable to rupture of the uterus, and the causes of this accident must be sought for in some other source than the mere duration of labour.

The *causes* most usually assigned as producing laceration are *mechanical.* The existing disproportion in the pelvis, and the large size relatively of the child's head, is supposed to be a sufficient explanation of the accident. The uterus is (to use the language of Burns) pinched between the head and the pelvis, and is torn by its own action: thus is explained why the seat of the laceration is so frequent in the cervix, either anteriorly opposite the linea-ileo-pectinea, or posteriorly opposite the promontory of the sacrum,—the two points where the greatest pressure is exerted. When the uterus is in action, the force of the fundus is directed against that portion which is confined, and not upon the os uteri: thus it is torn, if not cut through, by the sharp edge of the linea-ileo-pectinea.

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* Collins's Treatise, p. 305.

If this explanation were adequate to account for the manner in which rupture of the uterus is produced, it would certainly enhance considerably the danger of difficult labours: we would anticipate laceration in every case where the pelvis is contracted, and would be in constant apprehension of it whenever the head becomes fixed in the pelvis: we would be hurried consequently on to a very precipitate interference, and would be authorised to remove the child, even by the crotchet, if necessary, rather than expose the patient, by delay, to so frightful a catastrophe. A very little reflection will, however, shew that this explanation is much more plausible than real. Labours such as we have described are of necessity protracted. We have shewn that this accident happens much more frequently where the duration is short. Dr. Collins gives a case of laceration after four hours' labour, where the pelvis was contracted; another of five hours' duration, under similar circumstances. A case of contracted pelvis came under my own notice, where rupture took place after nine hours' labour. Comparing such cases as these with the statistical fact brought forward, proving that the number of ruptures are almost inversely as the protraction of labour, we must conclude that the duration of labour can exert very little, if any, influence in causing such an accident. On the one hand, we find it taking place long before labour has proceeded to its ordinary length; and, on the other, not occurring in cases where the protraction and difficulty of the labour might lead us to expect it. In fact, laceration of the uterus in protracted labours is rather the exception than the rule, and, in those instances where it happens, is generally attributable to a previously existing morbid alteration in the uterus, the result, perhaps, of neglected inflammation, or of some such cause.

We have thought it right to caution you *in limine* against a mistake of the kind, because, if it were true, and rupture of the uterus were an evil which we should especially dread in severe and protracted labours, we would be authorised to interfere much more frequently in such labours than is at all necessary; and consequently, if you were acting under a false impression, might be led into a very injudicious treatment. At the same time, we do not wish you to believe that mechanical causes have no effect: certain cases do occur in which the laceration seems to be the result of the violent action of the uterus tearing asunder the confined portion of the cervix. The pains are described as powerful and constant; the uterus gives way, and after death it is found to be quite healthy. I think, however, that these cases are exceptions. In the majority of instances where the uterus was examined, it was diseased; but in a large number of cases its morbid condition received no attention whatever. In the reports of these cases we have the situation of the rent, its extent and direction, detailed to us, but nothing is said about the uterus itself, although, from the history of the case, we have every reason for believing that it was not in a healthy state.

Under the head of mechanical causes we may include another class of cases that demand your most serious attention, viz. ruptures that are the result of actual violence, in the consideration of which we sometimes arrive at the truth respecting a meddlesome midwifery, that is very instructive. I have already alluded, in a former lecture,[*] to the dissecting-room experience of Sir Charles Bell on the mis-use of the forceps, and to "the injury which this seemingly harmless instrument, the forceps, is capable of doing." We are enabled to give you some illustrations of the justice of his opinion. The late Dr. Campbell related a case in which a rent in the cervix, vagina, and perineum, was caused by dragging with the forceps a horribly mutilated fœtus through a pelvis which was "ascertained to be too narrow to admit the transit of a living fœtus;"[†] and, singular to say, she escaped these lacerations. Dr. Trask states that there is in the museum of the New York Hospital "a specimen of rupture of the anterior wall of the uterus, and of the bladder, by the forcible introduction of the forceps."[‡] Dr. Trask also quotes from the *Lancet*[§] a very obscure, but a very suspicious case. "——, æt. 30, robust, *pelvis well formed:* had one living child. Had been in labour four days, without symptoms of rupture or peritonitis. After blood-letting, we endeavoured to apply the forceps *the whole afternoon!* but without effect." The woman died undelivered about five days from the commencement of labour. The same fatality sometimes attends the operation of turning the child. The late Dr. Ingleby related a case in which a practitioner, in an attempt to deliver by turning, passed his hand through the anterior part of the vagina into the abdomen." In another case, the mother of eleven children had been in labour sixteen hours: the midwife turned and delivered a living child. "During the operation the patient gave a loud scream, and fatal syncope came on after delivery." She died in two hours, having a rent in the right side of the uterus, through the muscular coat only.[*] We might easily accumulate these cases (Dr. Trask has collected eleven or twelve of them), but those quoted are sufficient to prove the danger that sometimes arises from the mechanical violence of operative midwifery. Another mechanical cause of rupture depending upon mismanagement arises from the improper administration of ergot of rye. This very popular drug, which is so extensively used, has been sometimes the cause of laceration of the uterus. We have already pointed out its effects on the life of the child:[†] we have now evidence of its influence on the life of the mother. Mr. Coward relates a case in which a powerful dose of ergot was given by a midwife without regard to the os, which was extremely rigid. Uterine action was most violent. After some time, prostration ensued, and she very soon expired. The post-mortem examination exhibited a large transverse rent posteriorly, and at the neck, through which the fœtus passed into the abdomen.[‡] In another instance, a strong healthy woman was taken in labour of her tenth child. After being five hours in regular active labour, the pains suddenly ceased for twelve hours, when the midwife gave ergot. In a few hours the pains returned, and the woman suddenly exclaimed that something had burst: she died in a few hours after delivery, which was effected by the blunt hook. On inspection after death the uterus was found healthy, muscular fibre very firm, and a rent posteriorly from the fundus to the os uteri.[§] Delmas relates the case of a young girl, aged 20, in good health, and in labour of her first child. After eight hours' labour the os uteri was nearly dilated, the waters escaped, and she seemed doing well. Her attendant, however, gave her a dose of ergot of rye: the pains were increased; but the head receded; she was found exhausted, a shoulder presented, and the child was turned. She died in a few days.[‖] In these cases the laceration was caused by the violent action of the uterus which the medicine excited; but this is not the only mischief which this medicine may produce. Some years ago I saw it given in two cases of difficult labour, where the head of the child was impacted in the pelvis: the pains were for a time increased, but soon ceased: the child was extracted by the crotchet: symptoms of exhaustion were soon followed by those of peritonitis, and the woman died on the third day after delivery. On inspection after death, a gangrenous patch, about the size of a crown, was observed at the posterior surface of the body of the uterus, the centre of which gave way. The slough was circumscribed, not opposite the promontory of the sacrum, where pressure might have such an effect, and the remainder of the uterus was free from inflammation. I concluded that secale cornutum produced just the same effect upon the uterus in these cases as it had done upon the extremities when it first arrested the attention of the profession. If I am correct in this opinion, you perceive that ergot of rye may not only cause rupture by its exciting too violent an action of the uterine fibres, but may predispose these fibres to give way by softening their structure.

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[*] Lectures on Parturition, p. 162.

[†] Lancet, 1828-29, vol. i. p. 34.

[‡] American Journal of Medical Sciences, vol. xli. p. 146.

[§] Lancet, vol. i. 1841-42, p. 29.

I direct your attention the more particularly to this effect because of its importance, and because the attention of the profession has been very little drawn to it. Dr. Trask's opinion upon this point so perfectly coincides with my own, that I have no hesitation in adopting his language. "The medical journals," he says "for obvious reasons contain but few cases of rupture from the imprudent administration of ergot. There can be no doubt that the injudicious exhibition of this drug has been the source of infinite mischief. It is difficult to obtain data upon this subject, for few in whose practice such cases occur would be disposed to report them, and those met with in consultation practice are kept secret from motives of delicacy. Dr. Meigs, in his communication above, remarks that some of the cases which he has seen, at least three, followed the 'ergotic contractions' induced by the imprudent exhibition of secale cornutum." Dr. Bedford, in his valuable additions to Chailly's Midwifery, most earnestly directed the attention of students to this subject, and states that he has in his museum *four wombs* ruptured by the improper use of secale cornutum. Dr. F. Ramsbotham, p. 194, relates one case of rupture during a breach presentation, and another in which there was a slight distortion of the pelvis: in both the catastrophe was mainly attributable to the exhibition of ergot, and he has known some other instances of rupture from its employment in cases unfitted for its use. It should be a rule in no case departed from, to refrain from the exhibition of this medicine when any disproportion exists between the head and the pelvis, caused either by contraction of the diameters of the pelvis, or by the excessive size or malposition of the head,—in presentations of the trunk and superior extremities,—when obstacles to the birth of the child exist, as from morbid contractions of the vagina, and obliterations more or less complete of the or uteri,—and also before the os uteri is *completely dilated, or at least perfectly dilatable.*"*

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[*] Lancet, 1841-42, vol. i. p. 796.
[†] Lectures on Parturition, p. 141.
[‡] MED. GAZ. vol. xxvii. p. 372.
[§] Lancet, 1836-37, vol. i. p. 834.
[‖] Journal Prac. Médécine de Montpellier.

The pathological causes of ruptured uterus deserve your attentive consideration, because as yet they are imperfectly understood, being only partially inquired into, and their influence in the production of this accident is much greater than is generally supposed. Some years ago, when attached to the Dublin Lying-in Hospital, I had the opportunity of closely observing the cases of ruptured uterus that occurred there, and was surprised to find many deviations from the descriptions I had read and been taught of the essential characters of this complication. Believing it to be produced by the violent action of the uterus tearing itself in its effort to force the head of the child through a contracted pelvis, I watched anxiously for it in severe and protracted labours, where such causes had been in operation, but no such effect took place. On the other hand, I was surprised to find rupture of the uterus where no mechanical causes existed adequate to explain it: while in one case the most powerful and regular action of the uterus went on continually, gradually overcoming the difficulties opposed to it with perfect safety. In another. a succession of feeble and inefficient pains suddenly ceased, and were followed by all the symptoms of rupture. A patient went through her labour apparently without accident; nevertheless, in twelve hours afterwards there was every evidence that laceration had taken place. These anomalies led me to examine more carefully into such causes as post-mortem inspection would reveal. A rich, and I think then an uncultivated, field of inquiry presented itself. The uterus, with few exceptions, exhibited, in those cases that I examined, one or another morbid alteration. In 1835 a paper was published in the Dublin Journal,† pointing out such morbid appearances as presented themselves: they seemed to me the chief cause of the lacerations that occurred, and reconciled the difficulties that previously embarrassed me. I am happy to find that what were at that time only suspicions, have received the fullest confirmation from obstetric authorities, as well as from the direct evidence of illustrative cases. In 1836, Duparcque, in an elaborate paper on the subject, directed the attention of the profession to the morbid condition of the uterus.* Since then, Drs. F. Ramsbotham, R. Lee, and others, allude to "thinning" and "softening" of the uterus as causes of rupture, and now the morbid condition of a lacerated uterus is deemed worthy of an attentive examination.

Partial atrophy or thinning of the uterus is not an unfrequent cause of rupture. Four examples of this morbid change presented themselves to my notice. In one instance the pelvis was contracted; the patient had two previous difficult labours; the uterus was thinned opposite the promontory of the sacrum, where it gave way. In another, the patient was in labour of her tenth child, five of whom were still-born; nevertheless the pelvis seemed sufficiently roomy, as the head descended within eight hours to the outlet, where it remained, making a slight advance with each pain, until, without any increased strength in the pains, or any obvious premonitory symptoms of such an accident, rupture took place. The cervix had given way posteriorly at a part where it had been previously thinned. In another case the patient was in labour of her third child, which presented the vertex in the third position; labour went on regularly for nine hours, the uterus acting with strength; the head had descended, still in the third position, into the cavity of the pelvis, when after one violent pain the uterus gave way with a transverse rent at the anterior part of the cervix, which had evidently been thinned. The last case was a patient in labour of her eleventh child, which descended after four hours to the outlet, where it was arrested; soon afterwards the membranes broke, and the patient complained of a sudden lancinating pain (the previous pains had been *quite feeble*), which was followed by the symptoms of rupture. At the anterior part of the uterus and nearly opposite the symphysis pubis there was a transverse rent about three inches long. In this case atrophy was not so obvious, because if it existed it must have been limited to the portion that was torn, as the surrounding structure was healthy. But the pains being feeble, the advance of the child nevertheless rapid, the labour short, and the laceration almost immediately following the discharge of liquor amnii, induces me to suspect the existence of the same cause that produced these symptoms in other cases; that is, thinning of the uterus. Several instances of this partial atrophy of the uterus have been since reported by different authors. Dr. Collins mentions the following case. "The patient was forty hours in labour of her sixth child, *the pains at no time being strong*, the head advancing slowly, when of

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[*] American Journal of Med. Sciences, vol. xii. p. 391.

[†] Dublin Journal, vol. vii. p. 198.

[*] Duparcque, Histoire complète des Ruptures et des Dechirures de l'Uterus, 1836.

a sudden uterine action ceased, extreme debility set in with vomiting; the head was immediately lessened, and the child delivered with the crotchet. She died almost instantly. On dissection a laceration of the muscular substance, without engaging the peritoneal covering, was discovered in the usual situation: the cervix uteri was to all appearance *not thicker than strong brown paper*."*

Dr. Trask quotes a case related to him by Dr. Channing of Boston, in which the woman died undelivered, because of her opposition to any operation. "The fœtus was lying among the intestines. The womb was well contracted, presenting a flattened thick mass, perfectly white, except in the part in which the rupture had occurred. Here it was thin, as *thin as a membrane*, and perfectly black. The contrast between this state of things, and of that which bordered it, was most striking. The extent to which the thinning process had extended was a space judged to be equal to the surface of two hand breadth."† Another very remarkable case is taken from the Philadelphia Med. and Phys. Journal, vol. iii. p. 422. A woman, aged 36, had been in labour of her fifth child; her previous labours had been long and severe, and the first was followed by chronic cystitis, but for years she had been free from disease. Her present labour was regular from the first, and every thing was well. "After seventeen hours' labour the waters escaped, after which she had four pains, and they then ceased. The child could be felt in the abdomen: rupture was suspected, but there were no symptoms, *no pain, nor sinking, nor motion of the child.* Ergot was given, and in about five hours the pulse was rather weak and sinking: an attempt to deliver was made with the forceps, then with the lever: the child suddenly escaped into the abdomen: profuse hæmorrhage and syncope when the hand was introduced. She died about twenty-one hours after the rupture. Post-mortem examination:—Extensive rent from fundus to bladder; parietes of the uterus as *thin as paper*, and at the insertion of the fallopian tubes was transparent, and *frail as cobweb*: bladder scirrhous, and in parts two and a half inches thick: pressure of this scirrhous mass probably caused the thinning."‡ This case is most instructive in many respects. You perceive that when a morbid change of this kind exists you may have a very extensive laceration of the uterus, with scarcely any prominent symptoms of the accident: you can also appreciate the effect of ergot of rye in such cases given for the purpose of increasing the pains, which in this, as well as in other similar instances, either became gradually weaker, or ceased without any obvious change in the patients' appearance.

Softening of the uterus is another morbid cause of its laceration which may also be observed. The fibrous structure seems to be the first tissue affected: the mucous membrane is then involved in the destructive process, but the peritoneum generally escapes. I have always found the peritoneum detached and raised up from the softened portion of the uterus, and containing coagula to a greater or less extent. This morbid change may be only slight, involving a few of the uterine fibres that give way when the uterus is in action, or it may be extensive, converting the affected portion of the uterus into a putrid mass. Such were the conclusions I had formed when first making inquiries into these pathological causes; and they seem to be confirmed by the cases since reported. We shall place before you examples of these different degrees of disorganization; some taken from those cases that came under my notice while in the Dublin Lying-in Hospital, and some from other observers. The first case is one of slight softening. A woman was admitted into the Dublin Lying-in Hospital, November 1833, in labour of her fifth child: the face presented: her labour, however, went on favourably, and she was delivered of a living child without any assistance. After delivery she complained of more than usual tenderness of the fundus uteri, where it was compressed, but there was no other symptom to attract notice. In the evening of that day her pulse increased to 130, and both iliac regions were tender on pressure: next day the abdomen became tympanitic, and the countenance anxious. From this period all the symptoms of peritonitis, accompanied by great prostration, showed themselves, and she died six days after her delivery. Had no post-mortem examination been made, the case would have been set down as death from peritonitis; but the inspection clearly revealed the cause of the peritonitis, which otherwise would not have been known. A quantity of coagulated blood and serum were found in the abdomen; the peritoneum covering the uterus was thickened, on the left side of which a quantity of clots surrounded a rent of about three inches extent; the rent exposed a cavity, containing coagula, formed in the walls of the uterus: this sac communicated with the cavity of the uterus by three openings in the mucous membrane, the largest about the size of a sixpence. In this case some of the fibres of the uterus had evidently given way during labour, but not to such an extent as to arrest its action: the blood poured out from the ruptured vessels formed a kind of aneurismal sac, that gradually increased in size: the peritoneum inflamed, and gave way to this distension by a direct rent: thus the contents of the sac, as well as perhaps additional hæmorrhage, were poured into the abdomen. Dr. Collins relates a case which may be compared with this: "The patient, on the fifth day after her delivery, without any apparent cause, was seized with violent hæmorrhage. When we saw her, which was immediately after, no pulse could be felt, and though the most powerful and active measures were employed, she died in less than an hour. She had been delivered, by the natural efforts, of a living child, after a labour not very severe, of forty eight hours, nor from that time was there distress of any kind perceptible. On dissection, the abdominal viscera appeared healthy, as did the uterus at first sight; but on raising it out of the pelvis, about the size of a shilling of its muscular substance, corresponding to the projection of the sacrum, had given way, the peritoneal covering remaining uninjured. There were two spots in the vagina approaching a state of slough."* In this case it seems to me that the fibrous structure had also given way during labour; that the aneurismal sac formed beneath the peritoneum was opened by the separation of a slough from the mucous surface: hence the hæmorrhage flowed externally through the vagina, and there was no peritonitis. In the following case that came under my own observation, the symptoms of rupture appeared soon after the laceration, but were very obscure:—A woman was admitted into the Hospital, in labour of her sixth child: the first and third child were delivered by instruments, the remainder naturally. Her pains were active, and within nine hours the os uteri was dilated, and the waters discharged: the head was felt resting very much on the pubis. In half an hour after this, without any exclamation or complaint, the pains went off, and all the symptoms of rupture presented themselves. She died the following morning. After death inflammation was found commencing in the peritoneum, which was raised from the anterior surface of the uterus, and lay loosely between it and the bladder. The anterior portion of the neck had given way, and was softened in its structure: a cavity was formed in its substance, but emptied of its contents, which passed into the abdomen through a rent in the peritoneum two and a half inches in extent. The fundus uteri was soft and doughy, the fibrous structure easily peeling off. I shall quote another case from Dr. Collins's report, which will show the obscurity of these cases. "A woman was delivered of her sixth child (a breech presentation), after a labour of eight hours. Immediately after birth there was a considerable gush of blood from the uterus, followed shortly by the placenta. The hæmorrhage continued to increase in an alarming degree, with great exhaustion: the abdomen was very large, and the uterus could with difficulty be felt: a laceration was found at the junction of the cervix uteri and the vagina. She died 30 hours from her delivery. After death the inner coats of the vagina and os uteri were found ruptured to a considerable extent posteriorly: there was a small rent in the peritoneal covering of the uterus, which did not correspond to the laceration." "In this case the child was expelled forcibly by the uterine action, nor was there any difficulty in the delivery of the head: the placenta, too, was thrown off without assistance. She had no symptom of rupture except extreme exhaustion, nor was her labour severe with the present or any former child."*

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* Collins's Treatise, p. 305.

† American Journal of Medical Sciences, Vol. xli. p. 138.

‡ American Journal, p. 130.

Dr. J. Ramsbotham reports a case in which I think the existence of softening may be inferred, although it is not so stated. Dr. R. was called to the assistance of a poor woman in Willow Gardens, Leonard Street, about 40 years of age, in labour of her 7th child; some of them had passed naturally, but in the last instance he had opened the head after several days' suffering. Her labour had commenced the day preceding, and went on regularly for twelve hours from the time Dr. R. had seen her. Finding the os uteri still rigid, and pelvis contracted, Dr. R. lessened the head to enable it to pass, but did not extract it then. Within two hours after he left the house, he was recalled, and found his patient under all the symptoms of rupture: she was immediately delivered, but did not long survive.

"The body was inspected the next day. The uterus was found to be ruptured on its anterior part above the os uteri, and opposite to the pubis, almost from side to side, the rent extending laterally towards the left broad ligament. The peritoneal covering had not given way except at one point through which some blood had escaped into the cavity of the abdomen." Dr. Ramsbotham well observes: "We have an instance in this case of an uterus expelling several children without injury: yet now, rupturing itself, after a few hours' action, and not to appearance very violent. It had most probably been thinned by pressure, or had received some injury in its structure by its previous exertions."† That injury I should call softening of its tissues.

A review of these cases, to which we might easily add others, will show you the progress of this disorganization in the uterus. It commences in the fibrous structure, which soon yields even to a slight force: hæmorrhage immediately follows: this effused blood may be for a time confined between the lining membranes of the uterus: in one case pressing inwardly towards the abdomen, detaching the peritoneum from its surface, until at length it gives way either at a point, or in a rent more or less extensive; in another, opening on the mucous surface by slough, and giving rise to severe external hæmorrhage. When the uterus is thus perforated, the symptoms of rupture, which before had been obscure and doubtful, become more distinct and intelligible.

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* Collins's Treatise, p. 288.

* Collins's Treatise, p. 396.

† Ramsbotham's Practical Observations, Part I. p. 401-2.

The extreme of this morbid change produces putrescency of the uterus. One example of this presents itself to my notice. A woman was admitted into the hospital in labour of her tenth child, which was premature. She had scarcely any pains; the fœtal heart could not be heard, and the os tincæ was just sufficiently open to admit the point of the finger. These slight pains altogether ceased, and she remained for five days before they were renewed; they then commenced very weak, dilating the os uteri very slowly. Ergot of rye was given, but did not increase their force. The action of the uterus continued thus for twelve hours: the os tincæ dilating to the size of a crown piece, when her pulse became very weak, and she complained of being very faint. She was immediately delivered by the crotchet of a very putrid child without the least difficulty. She recovered from her exhaustion, and every thing went on well until the fourth day, when symptoms of low irritative fever supervened, under which she sank. After death a quantity of sero-purulent fluid filled the abdomen: the ovaries were softened and mottled with dark spots; the peritoneum was raised from the left side of the uterus, forming a large dark pyriform tumor containing coagula; the posterior parietes of the uterus were divided, which exposed a large cavity in the anterior portion of the cervix and body of the uterus, surrounded by a ragged margin, which was black, friable, and almost converted into putilage. This cavity was chiefly formed by the raised portion of the peritoneum, the uterine tissue being destroyed.

In many instances it is very difficult to ascertain satisfactorily the predisposing cause of this morbid degeneration, but I think it may be sometimes traced to inflammation. This seemed to me obviously the cause in one instance. A woman had been sent into the Dublin Lying-in Hospital from the country, in a most neglected state, in labour of her first child. The length of time she had been in labour could not be ascertained, but the liquor amnii had been discharged; the os tincæ dilated somewhat more than a crown-piece; the passages were extremely hot and tender, and the bladder enormously distended; the head was fixed in the brim of the pelvis. The urine was drawn off; a cathartic enema administered, and the child removed by the crotchet. A most offensive discharge, mixed with blood, flowed from the uterus, and all the symptoms of rupture soon after presented themselves. She died about 24 hours after her delivery. The post-mortem examination showed extensive and violent inflammation of the peritoneum. The uterus was very much inclined to the right side, and on its opposite surface there was a broad patch of a dusky green colour, and quite soft. A little below this the peritoneum was raised up from the uterus into a black globular tumor containing coagula. On examining the internal surface, there was near the rent a similar green-coloured patch, which extended up farther than on the external surface. The uterus had given way at the anterior part of the cervix, very close to the vagina, and, from this, as far as the dark green surface extended, the substance of the uterus was softened. In this case there was no doubt about the existence of active inflammation of the uterus before delivery which led to this result; and it may serve as a useful example to show the mischief that may arise when such inflammation is not promptly subdued.

Cracks in the peritoneum is another form of rupture that it appears to me may be referred to this class of morbid causes, although it is very difficult to explain how they are produced. It is very clear that those mechanical causes to which rupture is attributed at the time of labour can have no possible effect, because the rents are numerous: they are not observed in the cervix, and the peritoneum may give way before labour begins.

Mr. White relates a case of a lady who was pregnant of her ninth child. She met with a fright that caused her to turn round quickly. She was immediately seized with pains, faintness, and palpitations, which then passed away. Eight days afterwards they returned in an increased degree; labour supervened, and after a few pains she was delivered of a full-grown still-born male child. In three-quarters of an hour she expired. After death, it was found that considerable hæmorrhage had taken place into the abdomen, and on the anterior surface of the uterus were two large tears or lacerations, and one of smaller size through the peritoneal coat, and through a few of the superficial fibres of the uterus.* Mr. Partridge relates a case in which his patient, in the ninth month of her seventh pregnancy, was seized with abdominal pains and bilious vomiting: in about eighteen hours after she was delivered of twins, and died in ten hours after their birth. After death, some ecchymosis was observed on the anterior part of the uterus, about the fallopian tubes and ovaries, and several transverse rents, more or less convex, towards the fundus, through the peritoneal coat. "A flap of the peritoneum had fallen down, and the raw and fibrous structure from which it had been torn was exposed as completely as it could have been done by the most careful dissection."* Dr. J. Ramsbotham was called into consultation to see a lady who had been delivered the preceding evening of her seventh child. "From the time of her delivery she gradually sank, and died somewhat suddenly, shortly before our arrival." On examination after death, a rent of several inches in length was discovered in the peritoneal coat of the uterus, on its back surface, extending nearly to the insertion of the left broad ligament, in which the fleshy structure of the uterus did not seem to be implicated. Dr. Lever mentions that a patient in her fifth labour, after a sudden movement of the fœtus, had a pain and sense of faintness; she rallied, was delivered artificially, but died in twenty-two hours from the commencement of the symptoms. The post-mortem inspection revealed a transverse rent of the fundus in the peritoneal coat, and a zig-zag rent posteriorly, involving some of the fibres of the uterus, and the rupture of a large vein, from which the hæmorrhage occurred.† Sir Charles Clarke reports a case where labour went on for two hours, when the patient had a sudden pain in the abdomen, accompanied by nausea, great irritability, and faintness. She died in fourteen hours, undelivered. Forty or fifty transverse rents were found on the posterior surface of the uterus.‡ These are very obscure cases, in which it is very difficult to determine the cause of the accident; it is very evident that it is not mechanical, and if we assert that it is morbid, it is not easy to say what degeneration had taken place. In all the cases the apparent cause that led to it was trifling. In one case, the patient turning suddenly round from fright before labour began. In another, she is seized, in the eighth month of her pregnancy, with sudden pains in the abdomen, and vomiting. In a third, the peritoneum is torn after two hours' labour. Some predisposing, and, I think, morbid cause, must have been in previous operation; and I am led to suspect that it is the same change on the outer surface of the uterus that we have already noticed on the inner—that is, softening of the fibrous structure. My reason for thinking so is, that the peritoneum, as in Mr. Partridge's case, was detached from uterus, and hæmorrhage always took place. We know that in the healthy uterus the peritoneum is so intimately attached to the fundus of the uterus that it is impossible to separate it. It separates very easily when the structure beneath it is softened. The uterine veins were torn and exposed: this could not happen without the fibres being torn also. It is for you to decide whether such slight causes as those stated could lacerate the fibres of a healthy uterus. My conviction is, that they were previously softened, had given way, produced a kind of diffused ecchymosis beneath the peritoneum, which was torn the moment the action of the uterus was excited. This, however, is only a conjecture, which requires confirmation from a careful examination of the uterus in such instances of this kind of laceration as are met with.

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* Dublin Journal, vol. v. p. 325.

Original Communications.

ERYSIPELAS TREATED BY SEVERE COLD OR CONGELATION:

WITH REMARKS ON THE SUPERIORITY OF THIS AGENT AS A REMEDY OF EXTERNAL INFLAMMATION.

By James Arnott, M.D.

The congelation or freezing of the animal textures produced by powerful frigorific mixtures, may be considered in its threefold character of a remedy, a prophylactic, and an anæsthetic, or preventive of pain in surgical operations.

Congelation is a remedy of many diseases affecting the nervous and vascular systems. Of external inflammation it is a certain, speedy, safe, and agreeable remedy.

Certain, because wherever congelation can be produced, inflammation ceases. Every other remedy of inflammation, as blood-letting, antimony, mercury, minor degrees of cold, &c. are more doubtful in their effects.

Speedy, because congelation instantly arrests inflammation. The congestive state which sometimes succeeds, has nothing of the character of inflammation, and none of its consequences. Where the degree or duration of the refrigeration has been insufficient, or where the cause of the disease continues to operate, the inflammation will, after a considerable period, return; but a reapplication of the remedy will again immediately arrest it.

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* Medico-Chir. Trans., vol. ix. p. 72.

† Lancet, Feb. 1846.

‡ Trans. of Association for the Improvement of Medical and Surgical Knowledge, vol. iii.

Safe, because in no instance, of hundreds in which it has been employed, has congelation been productive of any injury or untoward effect. Bloodletting often proves destructive, by prostrating the vital power required for reparation; and the other remedies have all their respective evils or dangers. Still, as every other potent remedy may be abused, so might congelation prove prejudicial, if too long continued, or if produced by frigorific mixtures of greater power than is required. In some cases it may be proper that congelation should be followed by the application of the "current apparatus," or the means which I have introduced for regulating local temperature with precision, in order to obviate reaction of the deeper tissues.

Agreeable, because it is speedy,—because it instantly benumbs the part, and relieves the pain accompanying inflammation. Excepting a slight tingling when the congelation commences, and for a few minutes after its cessation, this therapeutical agent causes no unpleasant sensation; such as the pain from the operations by which blood is extracted, or the fainting thus produced; the nausea and vomiting from antimony; the soreness of the mouth from mercury; the pain from scarification in phlegmonous erysipelas, &c.

The prophylactic virtue of congelation is the power which it possesses of preventing inflammation of parts which have been subjected to its influence. Wounds produced by surgical operations (as already stated in my paper in the Medical Gazette of December 1st), have invariably appeared to heal more speedily after the application of congelation, than under the usual circumstances, and probably on account of the absence of any injurious degree of inflammation. Indeed, it was the observation of this effect of congelation in preventing inflammation, which led to its use as a remedy of the same condition; and conversely, had it been first used as a remedy, its preventive power would probably have been as soon discovered. This property of preventing injurious vascular excitement ought alone, and independently of its anæsthetic virtues, to render the use of congelation a preliminary to surgical operations, for even the smallest of these occasionally proves fatal in consequence of inflammation. A sad illustration of this has recently been afforded by the lamented death of a distinguished statesman, who fell a victim to the consequences of a very trifling operation performed to remedy an inconvenience so slight that it could scarcely be called disease.

The third medical property of congelation, is its power of preventing pain in surgical operations. Its excellence in this respect, compared with ether or chloroform, consists, first, in its power of producing local anæsthesia, while the consciousness of the patient remains undisturbed; and secondly, and especially, in its perfect safety. Since the publication of my former remarks on this subject, other *sudden* deaths from chloroform have been reported by the press: of *eventual* fatal consequences and other mischiefs there is no record.

The remedial powers of congelation in inflammation are proved by the following cases of erysipelas, in which it was employed:—

To the philosophic physician, acquainted with the history of the treatment of erysipelas, the announcement of a new remedy for it will probably at first appear only as another example of the common fallacy of attributing the cure of a disease to the use of a medicine or remedial means, merely because the disease ceases after it has been administered. But there is this essential difference between the means now recommended, and the numerous and diversified expedients hitherto resorted to in erysipelas, that the former has in almost every instance in which it has been employed produced an immediate and very obvious beneficial effect; whereas the latter, it will be generally admitted, have just as frequently appeared to be inert or injurious, as to be efficient and useful.

Congelation, in respect to its use in erysipelas, is what is termed a rational remedy. Its analogies with other acknowledged remedies of inflammation would recommend its employment in this disease. Much of the danger of the erysipelas which affects the face and neck unquestionably proceeds from the extensive and severe inflammation of the skin; and to the suppression of this the efforts of physicians have been directed. Now, as cold is a remedy of inflammation of admitted efficacy, it is reasonable to suppose that by subjecting the diseased tissue, and this alone, to a short application of a much greater degree of cold than has hitherto been employed, a greater depressing or antiphlogistic power may be exerted. Again, as experience would show that bleeding when it produces syncope is a more certain mode of checking inflammation than when it does not produce that effect, so severe cold or congelation, which, like fainting, checks the circulation of blood through the part subjected to it, may likewise be useful, for the same reason, and under the same circumstances. The morbid action of the blood vessels being thus arrested for a time, the healthy circulation may, by the efforts of nature, be immediately afterwards restored. Such reasonings, however, are of little importance in comparison with the following facts:—

Case I.—Charlotte Shepherd, 10 years of age, living at 17, New Dorset Street, became a patient of the Brighton Dispensary on the 15th of November, 1848. When I first saw her, two days afterwards, there was much swelling and redness of the face, and the eyes were closed. Considerable fever was present, and, occasionally, delirium. She had been purged, and had taken antimonial and saline medicines without any mitigation of the symptoms. I applied a mass of pounded ice and salt, by means of a flat sponge, to each side of the face, for about a minute, or until large patches of the skin had become white and hard, or, in other words, frozen. She did not complain of the application, but on the contrary appeared to obtain immediate relief. The salt was washed off the face, and the saline mixture ordered to be continued.

17th.—The erysipelas has extended to the neck, and has returned to one side of the face and the ear. Increase of delirium and of the general febrile symptoms. The frigorific was again applied as before to the inflamed surface, and with the same immediate beneficial result. To take a laxative, and to continue the mixture.

18th.—The fever and delirium subsided towards the evening of yesterday. The swelling has now quite left the face, and nearly the neck.

From this period the convalescence was rapid. Little medical treatment, besides attention to diet, was deemed necessary during the remaining period of attendance.

A younger sister of this girl was attacked with erysipelas about a month afterwards, and died after a fortnight's illness. The fever was typhoid, and she gradually sunk from exhaustion. She was judiciously treated by moderate antiphlogistic remedies in the first, and by tonics and stimulants in the latter stage. My opinion was requested towards the end; but I did not think that congelation could then be of service. I now regret that it was not employed, as, without putting the patient to the least hazard, it would have removed or lessened one cause of asthenia, and diminished one source of suffering.

Case II.—W. Mansfield, aged 47, residing at No. 1, Leicester Street, admitted a patient of the Dispensary, with erysipelas, on the 12th January, 1849. Was seen at first by the house-surgeon, who prescribed a laxative, and a saline mixture containing antimony. When I took charge of the case on the 14th, I found him labouring under the disease in its severest form. He had been very delirious during the night, and continued to be excited, and at times incoherent. The face was much swelled and distorted, and the eyes closed. He complained of a very painful sense of burning in the inflamed parts. There was much fever. I applied pounded ice and salt in a piece of thin silk gauze, to the whole of the inflamed surface, by shifting the bag from place to place, and with the effect of freezing large patches of the skin. Each application may have lasted nearly two minutes. There was a little smarting during and immediately after the congelation, but this was succeeded by complete relief. To continue the medicine already prescribed.

15th.—The inflammation on the face hardly perceptible, but it has extended all round the neck, and the pain is severe. Passed a restless night, and the fever, which had subsided for about twelve hours, again rose to its former height. The frigorific was again repeated, and kept in contact with the different portions of the inflamed skin, until nearly the whole had become white and frozen. A mixture containing quinine to be substituted for the saline medicine.

16th.—Little appearance of inflammation on any part of the face or neck, and no uneasiness. Slept better in the night, though occasionally incoherent. The fever has decreased. To continue the tonic, and to take wine.

From this time, and under the same tonic remedies, he recovered rapidly.

Case III.—Harriet Tree, aged 4 years, residing at No. 16, New Dorset Street, (next door to the residence of the girl whose case has been related) was admitted a patient of the Dispensary, with fever, on the 15th January, under the care of Mr. Smith, who obligingly transferred the case to me when the inflammation of the face had betrayed the nature of the disease.

On the 16th, inflammation was perceptible on both the cheeks and the forehead. I applied to these parts in succession a solid bit of ice, covered with salt, and which had been slightly hollowed into corresponding shape, by being held for a few seconds in contact with a jug containing hot water. The refrigeration thus produced was not sufficient to blanch the skin, though the application was made for more than a minute. A saline mixture containing antimony and hyoscyamus to be continued.

17th.—The inflammation has spread over the face, and the eyes are opened with difficulty. Pulse febrile; restless, and apparently in much pain. A mixture of ice and salt was applied over the inflamed surface, but with little more apparent effect than on the former occasion, owing, probably, more to the insufficient quantity of the frigorific employed, than to the violence of the inflammation. A mercurial laxative to be taken night and morning, and the fever mixture continued.

18th.—Much ease appeared to have been afforded by the applications of yesterday, as she slept soundly for some time afterwards, and had immediately ceased complaining. The uneasiness, however, returned in the night, and she is now (3 P.M.) very restless, and raising her hand incessantly to her face, on which there are several vesications. The frigorific was reapplied for about a minute, and had the effect of freezing portions of the skin. After the skin had been washed, she was placed in bed and almost immediately fell asleep.

19th.—Better. The face is still swelled, and the eyes shut; but there is less heat in the inflamed part, and less fever. To continue the medicines.

20th.—The neck now much inflamed, as well as both sides of the face, and both ears The fever has increased. Tongue dry, with a brown fur in the centre; and the mouth appears inflamed. In the evening the frigorific was again applied, and much more effectually than on former occasions. About a pound of ice having been well pounded, (in a small canvas bag, placed on the brick floor by means of a flat iron) and quickly mixed with about half the quantity of salt, was put into a thin silk gauze bag, and applied for upwards of a minute over the face and neck, a third or fourth portion of the surface at a time: the frigorific being renewed for the last applications, and the melting ice being absorbed by cloths placed close to the bag or net containing it. The whole surface was thus frozen, and continued hard and white for half a minute. A mixture of acetate of ammonia and soda prescribed, to be taken at intervals.

21st.—Much relief was given by the congelation, as on the former occasion, and the swelling of the face and neck has nearly disappeared, excepting the eyelids, which continue closed. Tongue dry and more furred. Pulse more frequent, and much restlessness. The sensorium continues unaffected. Refuses to take food, and has evidently pain from what is forced upon her, and a difficulty of swallowing it. The breathing is not embarrassed, but there is a frequent hacking cough. To have wine and beef-tea.

22nd.—The inflammation has not returned to the neck or face, but appears to have increased in the mouth and fauces. Tongue very foul and dry. Pulse quick and weak. Occasional incoherence. To continue the wine, and to take a mixture containing carbonate of ammonia every four hours. An opiate at bed-time.

23rd.—Better. Tongue more moist; less restlessness; takes nourishment more willingly. A laxative prescribed.

24th.—Recovering. When she was

at last able to open her eyes, the conjunctiva of one was observed to be much congested; but there was no intolerance of light, or expression of uneasiness from this cause.

It will have been remarked in perusing the details of the above cases, that the beneficial effects of congelation were immediate, and otherwise so well marked as to prevent any doubt of its efficiency. In this respect it is strikingly in contrast with the remedies hitherto employed in erysipelas. The practice of scarifying the inflamed surface, or puncturing it all over with a lancet, may frequently be of some service, notwithstanding the irritation which the wounds themselves, and their exposure to the air, must necessarily produce; but the painting of the part with lunar caustic, and the application of warm fomentations, or cold lotions, I am disposed, from my own observation, to place, with respect to efficiency, in the same category with the old practice of the application of flour.

The absence of all injurious effect, or untoward consequence, from the congelations that were used, will also be equally obvious. The cerebral disturbance was uniformly relieved, and had the patient whose case is last related been of more advanced age, so that a solution of salt of about the temperature of zero might have been easily applied to the mouth and fauces, her disease, I have little doubt, would have had an earlier termination. A stronger application of congelation to the face, might, perhaps, have had a similar effect, by preventing the extension of the inflammation to the mucous surface.

The applications of severe cold were generally slight, and I am inclined to think that they would have been more efficacious had they been less so; that there might, at least, have been less necessity for repeating them. But there is, probably, no great difference, as respects the safety of the patient, between at once removing the inflammation and the susceptibility of its renewal, and checking it again and again on its approach; unless, indeed, the disposition to spread, just adverted to, be thus prevented. Some of the applications were milder than was desirable, on account of a defect in the means employed. If ice and salt be the frigorific resorted to, it is proper, where the skin is acutely inflamed, and consequently greater frigorific power is required, to employ it in the best or most effectual manner, as on the last occasion of its being applied in the third case. The greater expenditure of material now that ice can be everywhere procured at trifling cost, and in every season, is a point of no importance.

Although congelation may have no power in shortening the period of erysipelatous fever, or preventing it running through its several stages (and it certainly did not appear to have this power in the third case related), it will obviate the danger that would arise from the accompanying external or accessible inflammation. The danger from small-pox is, *cæteris paribus*, very much in proportion to the extent and degree of the inflammation of the skin, and particularly, in the opinion of Sydenham, of the skin of the face. It is this, probably, which makes the great distinction, in respect to danger, between the distinct and confluent species; and the same principle probably applies to erysipelas. A high and extensive inflammation must (as has likewise been remarked by Sydenham) necessarily increase the febrile action in this disease, or cause, as it were, a symptomatic fever in addition to that which is specific, and tend to exhaust the animal powers:—tend, in fact, to produce or aggravate the asthenia which in erysipelas is usually the cause of death. Inflammation of other systems or organs, occurring in typhus and other febrile diseases, must for the same reason, and independently of any consequent disorganization, materially increase their danger; but in all such cases, whether the skin or internal organs be affected, there is, in addition, the irritation or injurious influence proceeding from the disturbance of the function of the inflamed part. It is, therefore, not only in erysipelatous fevers that congelation will be found a remedy of great importance in subduing local affections; it will probably be also very serviceable in other analogous diseases accompanied with inflammation of superficial or accessible parts. The skin, mouth, and throat, are obviously under its control; the windpipe and cerebral membranes are probably not beyond its reach. If the latter do not admit of congelation, they may have their temperature reduced to a much greater degree than has hitherto been attempted, and with great remedial advantage. The point to be aimed at is, perhaps, not so much congelation, as that degree of refrigeration which will *permanently* depress the nervous and vascular energies, or depress them without causing reaction. This must be far below the degree to which any application of water or ice will reduce the temperature of the part.

The notion that certain external inflammations are, even to their full existing amount, necessary safety valves or emunctories for the materies morbi, or are otherwise essential to the patient's safety, is now, happily, nearly exploded. Physicians have become well aware that hypothesis, or ill-founded theory, has formed the grand impediment to the progress of the art of healing; and in no instance has the superiority of observation to theory been more remarkable than in the modern treatment of erysipelas. Amongst other means of subduing the external inflammation, cold applications are now generally recommended; and in this improvement there is only a return to the practice of Celsus (Book v. cap. 26.) and of his successors for many ages. In confirmation of the downfal of the doctrine of metastasis from cold, the published lectures on the practice of physic of two distinguished professors in the colleges of the London University, and the lectures of the present occupants of the chairs of surgery in the medical schools of St. Bartholomew's Hospital and University College, may be referred to. "There is no hazard," says Dr. Watson, speaking of the use of cold in erysipelas, "such as you may read of, of the inflammation being repelled from the surface and driven in upon some vital organ." But, even granting that cold, as it has hitherto been usually applied, is dangerous in certain specific inflammations from its tendency to cause metastasis (and there is little authority in favour of its use in rheumatism or gout), it must be especially borne in mind that there is a wide difference between congelation and such applications of cold. At first it might appear to differ only in degree,—in being greater than these and consequently more dangerous; but in truth, it is much less a cooling application. If a physician wished to heat the limb of a patient, he would surely keep it immersed for half an hour in warm water, in preference to applying a red-hot iron for a few seconds to the skin; and he would in cooling a limb make a similar distinction between continued cold and momentary freezing. Dangerous as plunging a limb affected with gout into cold water, according to Harvey's plan, may be, the same objection would not apply to the exactly limited and short application of congelation to the affected part; and the same observation would apply to the treatment of many varieties of rheumatism. Analogy, on the contrary, would point out such a remedy as one likely to be eminently useful in these complaints, in allaying suffering and preventing the disorganization of joints, while appropriate medicines were simultaneously exhibited as antidotes to, or evacuants of, the supposed materies morbi.

The resemblance between erysipelas and the exanthemata, or eruptive fevers, may have led to the unfounded fear of metastasis from cold; but although there are resemblances between these diseases, there are great differences as well: the frequency with which the same individual may be attacked by erysipelas is one of these, and the irregularity of the course of the disease (supposing that there is only one kind of erysipelatous fever—a point by no means established) is another. I believe that much more importance is attributed to the cutaneous eruption in diseases of this class than ought to be. If there be poison to be eliminated, there are other emunctories for this purpose besides the skin. As there is frequently scarlatina without eruption, so probably, measles and the fever of erysipelas may exist without it. Nay, considering that cases of small-pox occasionally occur with scarcely a dozen pustules spread over the skin, it is not very improbable that even this disease (as was, indeed, the opinion of Sydenham) may likewise run its course, and the system be purged of its poison, without observable cutaneous affection. In the fever caused by vaccination there is no eruption of pustules; yet, if there be poison evacuated in the natural small-pox, it can scarcely be doubted that an analogous process takes place in cow-pox, which is only a modification of it. The immunity which many persons appear to possess from the contagions of the several exanthemata would thus readily admit of explanation; and more effort might be made (were this point established) to endeavour that the disease should run a milder or safer course, instead of "forcing the eruption out," or causing extensive and assuredly dangerous inflammation of the skin, and suspension or derangement of its important functions.

The necessity of repeating the congelations in the cases narrated above, may have been partly owing to the insufficient degree of many of the applications, and partly to the still existing cause of the inflammation—the exanthematous fever. While the cause of inflammation continues active, a great change indeed would be required in the organization or function of the part to prevent its return. I do not say that this cannot be effected by congelation, but when the application can be so easily renewed, without pain or discomfort to the patient, such a change does not appear very important. When congelation has been used to arrest the inflammation and suffering which arise from mercurial ptyalism (and no remedy of this distressing state is comparable to congelation in efficacy and celerity of action) it has been usually necessary to repeat the application after an interval, on account of the persistence of the cause; and as the application of the frigorific immediately benumbs, the patient has never objected to its repetition. In suppurating boils, carbuncles, and glandular swellings, when congelation has been used to put a stop to the suffering of the patient and procure sleep, it has been seldom necessary to repeat the application, notwithstanding the persistence of the cause, probably on account of the inflammation being thereby much subdued; and the formation of pus being rendered much slower, the parts are more easily adapted to it—the fibres have become not only less sensitive, but they are less stretched. In some instances the matter appeared to have been absorbed, as the swelling gradually disappeared without breach of substance. It would generally, however, be a better practice in these cases, seeing that after a momentary congelation the abscess can be opened without pain, at once to liberate the purulent deposit and relieve the distended fibres by a free incision.

I trust that enough has been said to induce practitioners to have recourse to congelation in the treatment of erysipelas. Conscious that a strong prejudice exists against the medical employment of extreme cold, from the error of not discriminating between its effects when the body has been exposed to it for an unlimited period, and when it is employed remedially, and carefully limited in degree, duration, and extent, I had almost determined not to write again on the subject until I had an opportunity of doing so fully, and with a host of experimental proofs of my allegations; but the conviction that congelation is the only remedy to be relied upon in erysipelas, and that by its use much suffering and many lives may be saved, has persuaded me to the publication of this paper. I have only had the opportunity of employing congelation in the three cases of erysipelas which I have related, but the results of its application in these are sufficient to establish the excellence of the treatment. And the publication of these proofs, not only of the perfect safety, but of the great advantage of congelation in a species of inflammation which is usually considered as prone to gangrene, cannot fail to remove the apprehension of injury from employing it under different circumstances, and for other and not less important purposes. With respect to its remedial properties, I shall, on another occasion, give illustrations of the use of congelation in phlegmonous inflammations, chronic diseases of the skin, ophthalmia, &c.; and in certain neuralgic affections, including varieties of headache. Although headache may not often shorten life, it very often embitters it, by resisting every remedy that has been hitherto employed. In no disease have the efficiency, safety, and speedy operation of congelation been more conspicuous than in this painful affection; which appears, in many cases, to arise from a more or less permanently morbid state of the nerves of some portion of the forehead or scalp.

Brighton, Jan. 28th, 1849.

CONTRIBUTIONS
TO THE
PATHOLOGY OF THE SKIN.

By T. H. Burgess, M.D.,

Translator of Cazenave's Manual of Diseases of the Skin.

> "Quidquid præcipies, esto brevis: ut cito dicta
> Percipiant animi dociles, teneantque fideles."

No. II.

PELLAGRA.

Italian Leprosy.[*]

It is a singular fact, that one of the most miserable and disgusting diseases which afflict humanity, has been until very recently confined to a portion of the fairest country on the earth.

Pellagra (from *pellis ægra*, unhealthy skin) is a symptomatic disease of the skin, in which the external eruption is but a very mild expression of a most remarkably vitiated state of the constitution, the origin of which is as yet not clearly known. Owing to the frequency of its occurrence in the Lombardo-Venetian kingdom, and its usual termination in death of a lingering kind, mania, or helpless imbecility, the origin of this disease has long been the subject of anxious solicitude to the Governments of Lombardy. In 1831 the official returns showed that in the Milanese alone twenty thousand individuals were attacked by pellagra. The lunatic asylums of the Lombardo-Venetian Kingdom contain victims of this disease in the proportion of a third to a fourth out of the gross number of patients; and in 1843 the official returns showed that the proportion had increased in the hospitals for the insane at Brescia, to the alarming extent of three quarters out of the gross number of patients. Within the last few years, several cases of pellagra, which had been hitherto considered as a disease peculiar to Northern Italy, were observed in France in the department of the Gironde, and in Gascony, and attracted the notice of the French Government. A memoir on the subject was read at the same time before the Academy, by M. Roussel. I have had an opportunity of observing this disease in the hospitals and lunatic asylums of Lombardy, and more melancholy examples of afflicted humanity I have never witnessed before. The Cretins of the Valais are fortunate in their affliction, compared with the *pellagrosi*.

Symptoms.—Pellagra shows itself in the most insidious manner. The system is saturated with the disease before the slightest external manifestation appears. It commonly announces itself in the following way. About the beginning of April, when the warm weather commences, a shining red spot suddenly arises on the back of the hand or some part of the body, resembling erysipelas, but without much itching or pain, or, indeed, any other particular inconvenience. Men and women are subject to it, but the latter more frequently than the former. This red spot elevates the skin slightly, producing numerous small tubercles of different colours; the skin becomes dry, and cracks, and the epidermis sometimes assumes a fibrous appearance. At length it falls off in white furfuraceous laminæ, but the shining redness underneath still continues, and in some instances remains through the following winter. In the meantime, excepting this mere local affection, the health is not in the least impaired, the patient performs all his duties as usual, enjoys a good appetite, and digests well. And what is most remarkable is, that towards the end of September, when the heat of summer is over, the eruption generally disappears altogether, and the skin resumes its natural healthy appearance. The disease, however, is not eradicated,—it is merely suspended until the following spring, to reappear with the same characters, or with greater intensity.

This, the first stage of pellagra, in which the local affection is only manifest, continues in some instances for eight or ten years, disappearing regularly every winter, and returning in the spring. It most frequently, however, reaches its greatest height after the second or third attack. When it is about to advance rapidly, this malady will reappear the following spring with greater constitutional disturbance, but still apparently confined to the hands and other exposed parts of the body. The colour of the skin soon becomes more like that of tanned leather than anything else. General debility ensues as the summer advances: the nervous system is now deeply involved, producing anxiety, despondency, cramp, and spasm. The convulsions with which the *pellagrosi* are attacked are most shocking to see, and are of almost every kind, catalepsy excepted, which has been described by writers. When the paroxysm is over, the patient becomes a prey to the most distressing kind of melancholy, of a religious and suicidal tendency. Towards the end of autumn of this the second year, the disease begins again to subside, but the remission is less complete than on the previous occasion. The disease reappears the third year at a much earlier period, and with an aggravation of all the symptoms. The constitutional disorder is now predominant. The skin all over the body is dry, tough, and shrivelled, like that of a mummy, and the debility is so extreme that the patient can scarcely support himself. Diarrhœa ensues, which is soon replaced by dysentery. The breath and perspiration are foul and offensive. The saliva is discharged in great quantity at the angles of the mouth.* Dropsy, spasmodic diseases, as epilepsy, supervene, and if the unhappy patient survives these it is for the more wretched alternative of lingering on in a state of helpless imbecility, or of mania, which invariably terminates in fatuity. Unfortunately the disease does not always come to a close in the third or even in the fourth year. It may be continued for five, ten, or even fifteen years, during which period the patient knows that his doom is sealed.

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[*] It would be difficult to find a better illustration of the error of viewing diseases of the skin as local affections, and of separating them from general pathology, as referred to in the "Introductory Remarks," than the subject of this paper. Here is an *eruption*, which is in fact one of the mildest *symptoms* of a very serious *constitutional* disease, yet this disease, which profoundly affects the system, derives its name from the secondary cutaneous eruption, and accordingly we find it occupying a place in all classifications of diseases of the skin, and always described under the head of cutaneous pathology. According to the same rule typhus should be removed from its present position, viewed as a skin disease, and placed amongst the *Maculæ*, or *etechiæ!*

The *internal* symptoms of pellagra are sometimes extremely numerous, and equally intense. The patient is overwhelmed with melancholy. Pains in the head of a dull or lancinating character, ringing in the ears, vertigo, amblyopia, convulsions of the eyes, delirium, spasm of the muscles of the face, rigidity of those of the neck and trunk, and a creeping sensation along the spinal column, are often present together. Respiration becomes difficult, pains occur in the chest, liver, and bowels, and the patient, however chaste, is attacked by violent venereal desires. He is seized with spasm, cramp, and violent trembling. He attempts to run at imaginary objects, but quickly falls down in a state of unconsciousness and complete prostration. An abundant secretion of viscid and acrid saliva dribbles from his gaping mouth, and announces the stage of idiotcy. Symptoms of gastric irritation are strongly manifested during the progress of the disease, by bilious vomiting, thick and furred tongue, anorexia, alternating with a morbid craving for food. The intestines and the abdominal organs are subsequently attacked, inducing a low kind of fever, which in its turn is succeeded by colliquative diarrhœa, dropsy, and chronic inflammation of the viscera. It is singular that the patients sometimes preserve their *embonpoint* to the last; the pulse being low and feeble, and the gums red, swollen, and bleeding, as in scurvy.

I have seen two bodies of the victims of this distressing disease opened at the hospital at Milan. The membranes of the brain and of the upper portion of the spinal marrow were highly inflamed, which readily accounts for the delirium and aphelxia manifested during the progress of the malady. The whole of the chylopoietic viscera were more or less inflamed; and in some parts the mucous surface was completely disorganised. No traces of organic disease were observed in the lungs or heart. Indeed, the chest seemed to be exempt from the ravages of pellagra.

Causes.—The causes, the real source of this Lombardo-Venetian plague, have hitherto baffled the united efforts of successive governments, and the most enlightened medical men of Austrian Italy. Two of the most recent Italian writers on the subject ascribe it, one, to a degeneration of syphilis, the other, to maize, which forms the chief food of the peasantry of Lombardy. The former opinion is too absurd to merit any serious consideration. The latter being more plausible, though, in my opinion, equally erroneous, deserves further inquiry. Signor Balardini, of Brescia, who is the most recent advocate of this latter view, classes pellagra with endemic diseases of the skin of other countries; as, for example, the *radesyge* of Norway, Aleppo evil, plica polonica, *mal de cayenne*, &c., and puts forth the following propositions respecting the origin and diffusion of that malady:—

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* The saliva and sweat are so impregnated with saline matter, that in some districts the disease derives its name from that circumstance, and is called *Salsedina*.

1st. It is a disease of modern origin, appearing for the first time shortly after the general introduction of maize as an article of food into Italy.

2d. The disease is almost confined to that portion of Italy where maize forms the almost exclusive food of the peasants.

3d. It does not attack the rich, or those in easy circumstances, who use nutritious food; and even those persons attacked by the disease, provided the attack be recent, will soon be restored to their original health on suspending the use of maize, and replacing it by animal food.

4th. The plant itself is subject to disease from the humidity and extensive variations of temperature to which the climate of Lombardy is subject. This disease consists in a peculiar parasitic fungus (*verderame*), which turns the grain sour, and extensively modifies both its physical and chemical qualities.

Before the year 1771, pellagra had not been described, nor even alluded to, by any of the Italian writers. Frappoli then directed attention to it. It first showed itself in Lombardy proper, whence it spread gradually, as the cultivation and use of maize became more general, to the Venetian and sub-Alpine territories, to the valleys of the Italian Tyrol, and finally across the Appenines into Tuscany. At the present time, nine-tenths of the food of the peasants of the Milanèse consists of maize, in the form of coarse bread, half baked, or of *polenta*, ragoût, &c. In Brescia and Bergamo especially, where the extensive use of this kind of food is proverbial, the number of the *pellagrosi* is great in proportion to the population; and the comparative rarity of the disease in the mountainous districts of Bellona, Douga, &c., is apparently the result of the inhabitants of those localities migrating for eight or nine months every year to seek employment. It is certainly singular that in those districts where rice is abundant, and the food of a mixed character, the disease is seldom seen; whereas in those localities where the inhabitants are most oppressed, maize the ordinary food, and poverty and privation the rule, so far as regards the peasants, rather than the exception, pellagra is never absent, and presents itself under circumstances and with characters which sufficiently justify its popular title of *malattia di misèria*.

Signor Balardini remarks, that the disease seems to prevail with greater intensity between the degrees of latitude 43° and 46°, embracing principally upper Italy, the south of France, and the north of Spain, than in any other parts of Europe; those regions being bounded by high chains of mountains, which render the climate humid and the ventilation difficult, and consequently the maize, whose the natural climate is dry and warm, rarely ever arrives at maturity. But Naples, Sardinia, and Sicily, in which countries the same plant is freely cultivated and used as human food, are stumbling-blocks in the way of this theory, because pellagra does not prevail in any of them; nay, more than this, in the Lombardo-Venetian district of Sondria, the Valtalina, pellagra is very rare indeed (two cases only having occurred in 1840), yet the poverty of the peasants, their hard and incessant labour, and bad nourishment, are notorious. In some parts of Switzerland maize is extensively used, yet this disease is unknown, unless cretinism or the *goitre* are supposed to represent it.* But if privation and miserable food were the causes of this most remarkable disease, surely we ought to find something akin to it along the western shores of Ireland, where the peasantry drag on a miserable existence (it cannot be called living) on one kind of vegetable food all the year round, and that of the worst description. Dampness, and more than humidity—for it may be truly said that "it never rains but it pours" in that quarter—are not wanting in the mountains and valleys of Connamara any more than on the Alps and the Tyrol; and, from personal experience, I can testify that "the big rain comes tumbling to the earth" with equal weight, volume, and velocity in the former as in the latter. Signor Balardini, however, cites, in favour of his own views, the results of the experiments of Cerri. This physician took ten patients suffering from pellagra in an advanced stage, and fed them on nutritious food, chiefly animal, instead of the maize bread and polenta which they had hitherto lived upon. In a short space of time their health became materially improved, and the following spring, the advent of which is always dreaded by the *pellagrosi*, passed over without the disease reappearing in any of those patients. Balardini himself has performed similar experiments, which he states were followed by like results. When the constitution was not saturated with the disease, it soon disappeared altogether, and even in extreme cases the patient's health was considerably altered for the better. He admits, however, and quite accidentally, that this latter desirable alteration was greatly assisted by *change of locality*. Here I suspect the truth oozes out; and the following case, related by Nardi, goes to support the view of the *topographical* origin of pellagra, although it is advanced for an opposite purpose:—A peasant of Lombardy was attacked by this disease in a severe form. He entered the service of a family in easy circumstances, at some distance from his native place, and was not long in regaining his former state of health. Thinking himself cured, a few years after this he returned to his home, and to his original mode of living, when the disease returned as speedily as it had disappeared before. He re-entered service, was again cured, and, on returning home, lost his health as before. The patient now made up his mind to abandon his native place, and go back to service for the remainder of his life. After this the patient was never again troubled with his complaint. Signor Balardini seems to have overlooked the part which the change of locality has had in promoting the cure; but it would not suit his theory, which, to do him justice, he expounded at the recent Congress at Genoa with all the impressive earnestness of a true believer, notwithstanding the impatient incredulity with which it was received by many of his fellow-labourers in the same field.

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* In that most melancholy of towns, Sion-in-the-plain, the capital of the Valais, maize and goitre are abundant enough, but I never heard of or saw anything approaching to pellagra there.

The pernicious effects of maize, it seems, are not confined to the human species; for dogs and horses cannot indulge too freely in this kind of food with impunity. During the occupation of Italy by the French in 1812 and 1813, their horses are said to have refused to eat it after one or two trials. It was therefore sold by the soldiers to the peasantry, who eagerly bought and consumed this rejected cattle food: hence the cause, according to Balardini, of the great prevalence of pellagra during those years in the Lombardo-Venetian states. Dogs which were fed exclusively on maize, about the same period, were attacked on the back by a species of erythema mordicans.

Maize has been found, by analysis, to be totally devoid of gluten, which constitutes the most animalizable part of the other cereales. The peculiar degeneration of this grain, called *verderame*, and which appears to belong to the genus *sporisorium*, consists in the development of a greenish product in the germ of the plant, which gradually extends to the pulp. This abnormal substance has been subjected to microscopical and chemical examination by Signor Balardini, who ascertained it to be a parasitic fungus, containing, besides the usual elements of maize, stearine, resin, fungic acid, and an azotized substance. This production not only modifies the physico-chemical properties of the grain, but completely alters its taste or flavour, which is rendered sour and bitter, causing heat in the fauces and along the œsophagus, and nausea. More than a seventh part of the plant grown in Lombardy is stated to be vitiated by this parasitic growth, especially when the seasons have been cold and rainy, or the plant grown in low and damp localities. It has been also remarked that, under similar circumstances, and in similar situations, pellagra prevails most; that, in fact, this disease is occasioned in the same manner as other diseases resulting from vegetable poison,—as, for example, ergotism,—and that the appearance of the eruption on the skin is a certain indication that the system is saturated with the poison.

Treatment.—There remains but little to be said regarding the treatment of pellagra. When the disease is not of long standing, and the patient naturally of good constitution, it is simply necessary to remove him to another locality, and feed him on nutritious animal food, to ensure the removal of the disease; but when the latter is of long standing, and has fairly taken root in the system, no kind of treatment yet devised will be of much avail; indeed, under any circumstances, physic seems to be utterly useless in this miserable disease. Its etiology justifies this opinion. The causes of pellagra are evidently local; and, however the excessive use of maize may assist in producing the complaint, it is not the only cause; for the climate of the locality, the productions and peculiarities of the soil, and the general mode of living, exercise no inconsiderable part in the development of the peculiar endemic of the Lombardo-Venetian states.

12, Half Moon Street, Piccadilly,
March 1849.

NEW AND CHEAP ANÆSTHETIC.

For some time past, Professor Simpson, of Edinburgh, has been making some investigations with the view of removing one of the principal objections against the use of chloroform in practice, viz. its high price. He has, we understand, found that "light coal-tar naphtha," which is not above a penny an ounce, acts, when inhaled, with great rapidity and effect. When purified, light coal-tar naphtha consists principally of benzole.

It is unfortunate that one discoverer does not make himself acquainted with the researches of another before the publication of his own. The anæsthetics described by Mr. Nunneley in our last number as new, were made the subject of experiment some time since by Dr. Simpson.

THE SPRING LECTURES AT THE ROYAL COLLEGE OF SURGEONS.

The Spring Lectures at the Royal College of Surgeons will be commenced on Tuesday, March 13, and delivered every Tuesday, Thursday, and Saturday, at 4 o'clock. Professor Owen's Course will consist of twenty-four lectures on the Generation and Development of Animals. On Tuesday, the 8th May, Professor Paget will commence a course of six lectures on the Processes of Repair and Reproduction after Injuries.

MEDICAL GAZETTE.

FRIDAY, MARCH 9, 1849.

It will be seen by the report of an action in the County Court, published in our last number,* that the Society of Apothecaries, acting under the advice and at the suggestion of the Medical Protection Society, has made an attempt to suppress illegal practice without having recourse to the expensive proceedings which have hitherto marred its efforts to extirpate the tribe of quacks. Loud complaints have been made against the Society of Apothecaries, on the ground that it has not exerted itself in protecting the rights of its licentiates. We have frequently received letters from practitioners, complaining of the apathy of the Society in refusing to prosecute some unlicensed individual who practised in defiance of the Act; but the writers were evidently not aware that the power to prosecute was completely nullified by the expense attendant on the proceedings. Some years since it was announced by the Society, that the average cost of six actions against unlicensed practitioners amounted in each case to £320: the penalty to the defendant, *when* convicted, was only £20! Practically, therefore, under the clauses of its own Act, the Society is powerless to carry out the wishes of its licentiates; and, under these circumstances, we cannot be surprised that the Society should of late years have abandoned all attempts to prosecute Giessen and other *quasi*-practitioners, when the only result of success would be to inflict upon themselves a fine *sixteen times greater* than that levied upon the defendant when convicted?

The Society recently circulated a

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* Page 391.

document announcing that unlicensed persons might be prosecuted under an indictment for misdemeanor. The experiment was successfully tried in one or two cases; but as the Society declined to interfere except by advice and suggestion, and as medical men were most unwilling to appear in the character of public informers, the prosecution by indictment appears to have been laid aside.

The trial, which was reported in our last number, opens a new view of the powers possessed by the Apothecaries' Company, but we presume we must regard the members of the Medical Protection Society as the real defendants in this action. The small expense attending legal proceedings in a County Court, as well as their summary character, is well calculated, in the absence of a new law, to clear the profession of a great number of adventurers, who, to the injury of the public, are thriving at the expense of the licentiates of the Hall. The Society has therefore no longer the excuse of abstaining from the exercise of its powers by reason of the expenses attending it. The penalty will pay the expenses and leave a fair balance for a prosecution fund. All that the practitioner has to look to, is that it shall be in his power to produce at the trial clear and distinct proof that the offender has practised as an *apothecary*,—the meaning of which is sufficiently obvious from counsel's address in the case of Lobo.* A distinction must here be made between what is *believed* or known to be true, and what can be *proved* to be true in a Court of Law. It is the latter only which can serve the purpose of a penal action; and unless *proof* of practice can be procured, it is absurd to call upon the Society to institute proceedings which can only end in a verdict or judgment in favour of a quack practitioner.

The recent trial, however, is by no means satisfactory. The judge expressed himself as not satisfied that he had jurisdiction in the matter; and as the penalty has not been enforced, it is still uncertain whether the County Courts can legally take cognizance of this offence against the Apothecaries' Act. There should obviously be no doubt on such a point. The 58th clause of the Act (9 and 10 Vict. c. 95) appears to convey this power:—the cases in which these Courts have no jurisdiction are there specially described, and they do not, according to our interpretation, include an action for a penalty under the Apothecaries' Act. The opinion expressed by the judge, however, is calculated to excite doubt; and although the question has been this time passed over, in consequence of the defendant having promised not to repeat the offence, we recommend the Medical Protection Society to have the judgment enforced in another case, and (if rendered necessary by an appeal) to obtain the opinion of a superior Court. The pardoning of such offences by a sort of compromise does no good. The promises of defendants are always made much more binding when they are compelled to pay a penalty. We never could understand the magisterial or judicial policy of letting a convicted person escape because it was his *first* offence. Experience shows that such misplaced leniency almost invariably leads to a repetition of the offence. Either do not prosecute at all, or prosecute effectually. This, we think, should be the motto of any society which is constituted for the protection of the medical profession.

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* Page 391.

Reviews.

Medico-Chirurgical Transactions. Vol. XXXI. 1848.

In giving an analysis of the papers contained in the 31st volume of these important Transactions, we shall not confine ourselves to the order in which they appear, but we shall group together the various papers illustrating Anatomy, Surgery, Uterine Disease, and Medicine.

Anatomy.

Paper xviiii., which is the only anatomical communication, contains an account, by Mr. Henry, of the dissection of a brain, in which the anterior portion of the corpus callosum, the fornix, and septum lucidum, were absent. This case is communicated by Mr. Paget, and is a companion to the case of deficient corpus callosum contributed by that gentleman to the 29th volume of the Transactions. There was an interesting peculiarity of mental development in each of these cases. While in Mr. Paget's case, a girl, there was vivacity with a want of caution, showing themselves in a habitual rapidity of action, as well as want of forethought, deliberation, and attention; in Mr. Henry's case, a boy, there was a disproportionate degree of caution, with a want of vivacity, showing themselves in extreme slowness, amounting almost to stupidity.

Surgery.

The first paper, by Mr. Benjamin Phillips, is a valuable contribution on intestinal obstructions depending on internal causes, and on the means to be employed for their relief. From its title, this would seem to be a medical paper; but its main object is to discover whether, when, and how, gastrotomy ought to be performed for the relief of such cases. Mr. Phillips has collected 169 cases of obstruction; of these 136 were on record, and 33 were communicated by his friends, particularly Dr. Hodgkin, or observed by himself.

Out of 2,392 post-mortem inspections given by Louis, Boyd, Paget, and Hewett, there were 22 of intestinal obstruction, or about 1 per cent. We find that this proportion, taken chiefly from the practice of hospitals, where such cases, being of extreme character, would naturally go for relief, is considerably greater than that given by the Registrar General. Out of 24,496 deaths in London, 89, it appears, were caused by intestinal obstruction (ileus, 56; intussusception, 22; stricture, 11), or 3·6 per 1000.

Of the 169 cases, the obstruction was caused in 63 by invagination; 16 by the pressure of tumors from without; 19 by stricture from disease of the parietes; 11 by intra-intestinal tumors, hardened fæces, or concretion; and in 60 by constrictions, bands, passage of the intestine through an abnormal opening, or twisting of the intestine upon itself.

Mr. Phillips gives a series of interesting cases of—1, Ileus; 2, Obstruction from a biliary calculus; 3, from the accumulation of fæcal matter; 4, from an intra-intestinal tumor; 5, from malignant contraction of, and 6, tumor pressing on, the colon; 7, from invagination; 8, from constriction by bands; and 9, from the passage of the intestine through an abnormal opening. These cases show that no matter what may be the cause of the obstruction, no remarkable difference is observed in the prominent symptoms by which it is accompanied. Constipation, abdominal pain, or uneasiness with tension, and sickness, are present in greater or less intensity in most, though not in all cases, and without distinction, whatever be the cause of the obstruction. The more complete and sudden the obstruction, the more urgent usually are the symptoms; but the exceptions to this feature are so many, that we cannot rely on the distinction.

It is desirable, but often impossible, to know the seat of the obstruction. It has been said, probably with truth, that vomiting and pain are more severe, and the urine more scanty, when the obstruction is in the small than the large intestines; but the exceptions are many. However, the history of the case, the particular seat of pain, the occasional existence of a tumor, the distended convolutions, and, when the obstruction is in the large intestines, the use of a long rectum tube, and of injections, will usually assist in discovering the seat of the obstruction; but even with these means the diagnosis is but uncertain.

As to the treatment of these cases, the drastic purgatives seldom do good, and usually do harm. Opium, blood-letting, calomel, and enemata, are the most valuable means. Of the 169 cases, 133 died; 7 out of 9. Would not a better chance of life be afforded by gastrotomy? Hevin, Mensching, Otto, Boyer, and Dupuytren, object to the operation, while Manoury and Bonnet recommend it.

Gastrotomy has been performed 26 times on infants, and 27 times on adults, for intestinal obstructions. (These cases are given at greater or less length.) Of the 26 cases in infants (the incision being made in the left iliac or lumbar region), 8 were successful, 12 died, and 6 were doubtful. Of 19 cases in the adult in which artificial anus was formed, for obstruction in or near the rectum, by incision in the iliac or lumbar region, 9 were successful. In 8 instances gastrotomy was performed elsewhere, and without forming an artificial anus, and of these 4 appear to have succeeded. In the whole, 14 out of 27 cases failed.

These statistics are unquestionably favourable to the performance of gastrotomy in hopeless cases of intestinal obstruction, the operation being justifiable when three or four days have passed without relief from ordinary means.

If the indications as to the seat of obstruction be sufficient to satisfy the surgeon, it is at or near that point that the incision should be made; but, if there be much doubt, it is most prudent to make the incision on the median line.

If the cause of the obstruction cannot be removed, an artificial anus ought to be formed as near as may be prudent to the seat of obstruction: if this be at the termination of the ileum, that part will be readily reached through an incision at the median line.

Mr. Phillips's valuable paper is further illustrated by two other papers in this volume—(Nos. XIX. and XXVI.)—In paper XIX. Mr. Drewett details a case, in which he performed gastrotomy on a boy, on the 14th day after the last full evacuation. In this case the ileum was obstructed twenty-five inches above its termination, by a band of old adhesion. The adhesion was easily discovered and divided, but the intestine gave way, owing to ulcerations immediately above the seat of constriction. A fatal result speedily ensued. In Mr. Drewett's case, the seat of the obstruction was anticipated, and a medial incision was made which led directly down to it. This was not so in an interesting case of Obturator Hernia (XXVI.), in which Mr. Hilton performed gastrotomy eleven days after intestinal obstruction commenced. The nature of the case was only discovered during the operation, which was performed under the influence of chloroform. The strangulated portion of intestine was returned, but the patient died twelve hours after the performance of the operation, from the effects of acute peritonitis.

These cases, though fatal, show the propriety of operating in cases of unrelieved intestinal obstruction, since in each the cause of the obstruction was relieved; and it is very probable that the result would have been successful, had the operations been performed on the third or fourth day, instead of the eleventh and fourteenth; and they thus illustrate the practical importance of Mr. Phillips's note, that in cases of intestinal obstruction, gastrotomy is "justifiable when three or four days have passed without any relief from ordinary means."

XIX. is a valuable practical paper, by Mr. Luke, on the operation for the relief of Strangulated Hernia, as recommended by Petit, without opening the hernial sac.

Mr. Luke presents us with the following statistics:—

		Of these died.
Cases of strangulated hernia subjected to the ordinary operation, quoted .	291	163 about one-half.
Ditto, London Hospital	65	21 about one-third.
Cases relieved by taxis, quoted . .	154	13 about one-twelfth.
Ditto, London Hospital (293 cases) .	206	0
Mr. Luke attempted to perform Petit's operation in 84 cases: of these the sac was unopened in	59	7 about one-eighth.
The sac was opened in	25	8 about one-third.

Before 1841, Mr. Luke selected the cases for Petit's operation: since 1841 he has attempted it in every case of strangulated hernia requiring operation. 26 of 84 cases were selected; these Mr. Luke puts aside: he would also put aside 4 of the cases not selected, since 3 of them were moribund, and the fourth died six weeks after the operation, from effusion following ulceration in the strictured part. We cannot agree with Mr. Luke that these cases, which he has related with perfect good faith, should be set aside in estimating the relative success of Petit's and the ordinary operation. We shall therefore here replace them:—

Of 58 cases, the sac was opened in . . 21 . . 3 of which died.
" " not opened in . 37 . . 6 " "
On Mr. Luke's estimate . . . . 33 . . 2 " "

	Sac opened.	Died.		Not opened.	Died.
Femoral hernia, 31 cases . . .	7	1	. .	24	1
Inguinal " 20 cases . . .	13	2	. .	7	0
Umbilical " 3 cases . . .	1	0	. .	2	1

(In these cases, 4 deaths are not included.)

In those cases in which the sac was opened, it was usually only divided to a very limited extent. It is usually in cases of stricture in the neck of the sac that it is needful to open the sac: hence the frequency with which it was opened in cases of inguinal hernia, the stricture being seated in the neck of the sac in 15 of the 20 cases of that class.

We refer to Mr. Luke's valuable paper for the method in which he operates. The important point is, to ascertain the exact spot at which the stricture is situated, and to cut so that the centre of the incision shall be over the stricture. This spot is discovered by pressing with one hand on the tumor, with a view to cause impulse; and, the fingers of the other hand being at the neck, the precise spot at which impulse ceases is carefully ascertained. At that point will be found the seat of stricture.

No. XI. is a practical paper by Mr. Paget, containing 5 cases of ununited fracture, successfully treated. The first case is one of ununited fracture of the radius and ulna: the fractured and overlapping ends of both bones were removed at the end of thirty four weeks, and the fracture united. In the second case, an ununited fracture of the tibia and fibula, a seton was inserted at the end of the eighth month, and union followed. The third case, an ununited fracture of the tibia at the end of nine months, recovered after keeping the limb in perfect quietude for three months. In the fourth case, owing to want of sufficient nutriment, union had not commenced in a fractured humerus at the end of seven weeks, but was complete at the end of four more weeks, the patient being well fed in the country. In the fifth case, union in a fracture of the tibia and fibula had not commenced at the end of six weeks, apparently from constitutional syphilis. On the administration of mercury, the syphilitic symptoms disappeared, and union was gradually completed.

In the first three cases the want of union was owing to local causes, and local treatment was therefore applicable; but in the last two cases it was due to constitutional causes, and the recovery was therefore brought about by constitutional treatment.

XXI. contains the account, by Mr. Paget and Mr. Shaw, of two specimens of dislocation, in consequence of disease of the first and second cervical vertebræ.

XXIV. comprises the account of a case of re-section of the scapula, successfully performed by Mr. Fergusson.

XXV. gives the description of a successful operation by Mr. Hilton for the removal of a bone netting-mesh, which had been accidentally introduced into the pelvis through the vagina. The mesh was cut down upon, divided by the bone-forceps between two ligatures previously passed round it, and each portion was removed by dressing-forceps. The upper portion measured four inches in length; the lower, one inch and five-eighths. The recovery was complete.

XXVII. is the description, by Mr. Quain, of the dissection of a case of dislocation of the head of the femur, backwards. The subject of it, a man, fell thirty feet, and was killed on the spot, owing to fracture at the base of the cranium. The right hip was dislocated; the whole limb was inverted: it was farther back, at a distance from, and shorter than the sound one. The following are Mr. Quain's practical inferences from the consideration of the examination of this case, of two others reported by Sir A. Cooper and Dr. Scott, and of experiments performed by Mr. Quain on the dead body:—

In the ordinary form of the dislocation backwards, the head of the femur does not reach the sciatic notch, but is lodged immediately above the acetabulum, over the base of the ischiatic spine.

During extension, the thigh ought to be directed across the pelvis, so as to form a right angle with the abdomen; the limb to be in a state of abduction, being thus drawn away from the pelvis forwards and outwards; and the knee to be bent, the extending force being fixed above the joint.

Uterine disease.

No. II. contains the report of an interesting case in which Mr. Arnott removed, during labour, a malignant tumor, of the size of a large green walnut, from the anterior lip and right side of the os uteri. The removal of this tumor was necessary to allow of the birth of the child, and was effected by making traction on the tumor with a pair of Lisfranc's forceps, and by cutting freely beyond it, by a succession of strokes, with a pair of curved scissors.

In a quarter of an hour a living healthy child was born, and the lady had a good recovery.

Eight months after the operation, when hæmorrhage was somewhat alarming, the part from whence the tumor had been removed remained sound, but the posterior part of the os uteri was the seat of a similar disease. She died eight months afterwards, with all the symptoms of malignant disease of the womb.

XIV. contains practical observations by Dr. Locock on some peculiarities of polypus of the uterus. In five cases of uterine hæmorrhage he ascertained, during the hæmorrhage, the existence of a very small polypus within the os, and on the cervix uteri. The removal of the polypus, in the first case by the finger nail, in the last by a fine sharp scoop inclosed in a canula, led to the cessation of the hæmorrhage.

In removing small polypi, they should be brought into sight by the use of the bivalve speculum, and snipped off with a pair of scissors. If the polypi vary in size from that of a hazel-nut to that of a large pear, they should be twisted round several times with the double hook forceps, and then drawn down and excised with the curved scissors. When the polypus is very large, the ligature may be applied at first, and after a few days it may be drawn down by the ligature and excised.

XV. contains the description, by Dr. Reid, of an instrument for supporting the uterus when prolapsed: it is so constructed as to spring open when inserted, and to be easily removed and inserted by the patient.

VI. is a remarkable case of destructive ophthalmia, with abscesses in the right lower limb and both upper limbs, and disease of the right knee, following the delivery of a four months' child, which had been dead in the uterus some time. This patient, who was reduced to extreme weakness and emaciation, finally recovered from these ailments, which were doubtless due to uterine phlebitis.

The last paper that we shall notice at present is No. XIII., containing an interesting case of extra-uterine fœtation, detailed by Mr. Donald Dalrymple.

In this case the fœtus, which was full grown, lay in the abdomen, in a cavity formed by the intestines and omentum above, and the pelvis below, and lined with a thick vascular layer. The placenta appeared to be connected with the uterus.

From the history of the case, and the post-mortem appearances, it was Mr. Dalrymple's impression that the fœtation was uterine, and that the fœtus remained in the uterus until about the fourth month, when, during sexual intercourse, a rupture of that organ occurred, through which the fœtus escaped. On the 30th of September, labour apparently commenced, and it is possible that the fœtus then died, and remained dead in the abdominal cavity until the mother's death on the 23d December.

We purpose giving, in a future notice, the substance of the medical papers contained in this volume.

On Femoral Rupture; its Anatomy, Pathology, and Surgery. With a new mode of operating, applicable to cases of Strangulated Hernia generally. With Plates. By JOHN GAY, &c. Pp.97. London: Highley. 1848.

FORTY-FIVE pages are occupied by an anatomical description of the parts concerned in femoral rupture, and the morbid conditions to which these tissues are liable in old herniæ. In these pages we have been unable to find any novelty as regards the anatomy, while the importance of the morbid states appears to be overrated.

A great number of names are brought forward to distinguish portions of fasciæ or ligaments, on which we have to observe—that there are scarcely two subjects in which the anatomy of the region described by the author corresponds in the *minute* points to which he refers; and, besides this, we presume that his dissections have been made of subjects in which the morbid condition of which he writes did not exist. In dissecting the region of a subject afflicted with rupture, it is commonly found that all the structures are so changed as to be scarcely recognizable, and those who are in the habit of operating, know that these subdivisions of ligaments and fasciæ are, in the majority of cases, perfectly indistinguishable.

Concerning the operation proposed by the author, we cannot perceive from his description that any marked advantage is likely to accrue from its adoption. The liberation of the intestine from its constricted state by the division of those tissues which form the stricture external to the hernial sac, is *the point* of importance; and, that principle being adopted, the mode of dividing the integuments, as proposed by the author, is but a matter of secondary consideration.

There are only *four* cases related; and surely this is too small a number to justify any inference regarding the superior advantages of one mode of operating over *every* other. It would, therefore, have been better had the author deferred publishing the treatise until more cases could have been brought forward to demonstrate the success attending the operation. There can be no doubt,—at least hospital experience daily proves the fact,—that it is the *delay* in the performance of the operation, and not so much the precise mode of operating, in which the danger resides; and this is the reason why the results of hospital practice are so unfavourable. The patient, in a bad condition, may be under the care of a medical man for some days. He attempts to reduce it by the taxis: in his absence the patient tries to "push it up." Being unsuccessful, the sufferer is advised "to go to the hospital," as an operation is required. At the word "operation," fears are excited, and a longer delay in resorting to the only efficacious mode of treatment is the consequence. The patient at last enters the hospital, her powers are reduced, and almost in a state of collapse, so that even then time is required to restore her strength. Peritonitis has now become established, but without very decided indications; for peritonitis may exist without very strongly marked symptoms. The operation is performed, and the patient sinks—the peritoneal sac not having been opened. On a post-mortem examination proofs of the existence of a low form of peritonitis are met with generally about the viscera: this has been caused more by the delay in the performance than by the effects of the operation.

We therefore cordially agree with the author in his statement, p.89, "that the early relief of the strangulated parts by operation, as soon as the judicious use of the preliminary means shall have proved unavailing," is always indicated.

Three of the cases reported by Mr. Gay were in private, only one occurred in hospital practice.

The work is very elegantly "got up," and, with the exception of some typographical errors, reflects credit upon those who have been concerned in its production; the lithographs being very good.

On the Dependence of Animal Motion on the Law of Gravity. By H. WIGLESWORTH, M.B., Scholar in Physiology of the University of London. Part I. 8vo. pp. 156. London: Baillière. 1849.

DR. WIGLESWORTH considers that the various anatomical and physiological facts which he has here accumulated go to prove that Physiology is not strictly a separate science, but that the study of the animal kingdom belongs to Physics. We by no means wish to discourage any attempt to extend our knowledge *more Liebigiano*, even by the aid of *very* bold hypotheses; but from the examination of this essay we are inclined to think that the author is one of those physiologists who have a tendency to rush into extremes. At one time, every phenomenon, simple or complex, was referred to the operation of the vital principle: modern discoveries have, however, shown that many of these mysterious phenomena admitted of explanation on physical and chemical laws; and now, by a sort of reaction, some physiologists, passing to the opposite extreme, contend that physical forces are alone concerned in their production. Thus the author of this essay, basing his views chiefly on quotations from the works of Drs. Carpenter, Sharpey, and others, considers that the living body is a mere machine, obedient in all respects to material laws; that it becomes directly active through the medium of atmospheric pressure; and that the necessary vacuum which leads to this pressure, is produced by chemical changes. He further considers that muscular and nervous action, nutrition, absorption, and animal heat, also admit of explanation by reference to the one great law of gravity. We have not the inclination, nor can we find the space, to go into an analysis of the evidence by which the author attempts to support these conclusions. He displays great ingenuity in endeavouring to reconcile well-known actions of the living body with the effect of gravity; but the assumptions are so numerous, that we doubt whether he will make many converts to his hypothesis.

A Manual of the Dissection of the Human Body. By Luther Holden, F.R.C.S., Demonstrator of Anatomy at St. Bartholomew's Hospital. Part I. Small 8vo. pp. 105. London: Highley. 1849.

This is a praiseworthy attempt to lighten the labour of the student in the dissecting-room. The author considers, and with some reason, that the treatises commonly used by students are either too systematic or too redundant of minute details. He has therefore aimed at supplying a book which shall be essentially descriptive of those parts which the student may explore with the scalpel. The treatise does not include osteology. It is intended to complete the work in four Parts. The first, now before us, gives the anatomy of the soft parts, with rules for the Dissection of the Arm. The other Parts will be devoted to the Head and Neck, Abdomen and Pelvis, and Leg, respectively.

The descriptions are concise, but sufficiently full for the dissecting table. It will be found a useful companion to those who are commencing the study of practical anatomy.

Proceedings of Societies.

SOUTH LONDON MEDICAL SOCIETY.

John Hilton, Esq., President.

On Hæmorrhage from the Umbilicus after the Separation of the Funis. By Edward Ray, Esq.

My object in detailing the following cases, and collecting others of umbilical hæmorrhage occurring some days after the separation of the funis, is to demonstrate the peculiar disposition this kind of hæmorrhage has to attack the male sex only, and its liability to occur in a succession of male children from the same parents. I am also particularly desirous to receive from the profession any facts relative to this somewhat rare affection, or suggestions that may tend to the more successful prevention or treatment of it.

A lady, aged 32 years, was attended by me in her sixth confinement, on the 1st of May, 1845. After her marriage (1834) she was thrown from a chaise and bled largely from injuries then received: her first child, a female, was born June 19th, 1835; the mother attempted to nurse, but from extreme debility was obliged to give it up entirely to a wet nurse after a few days: the child was strong and healthy, and is now living.

2nd child, a male, born December 1st, 1836, was feeble from its birth, jaundiced, refused both breast and food: hæmorrhage occurred from the navel some days after the separation of the cord, and the child died on the 19th day after birth.

3rd child, a male, was born on December 19th, 1837, and appeared to be strong and healthy at birth; was nursed by mother in the day and fed in the night, became jaundiced; some days after the separation of the cord the child was found to be faint after coughing in the night; umbilical hæmorrhage had occurred, and he died on the 11th day after birth.

4th child, a female, born May 26th, 1839, was nursed by mother two hours during the day, and fed at night: now living and healthy.

5th child, a female, born May 2nd, 1842, was nursed by mother 16 months during the day, and fed at night: has been healthy, but has now emphysematous lungs subsequent to hooping-cough.

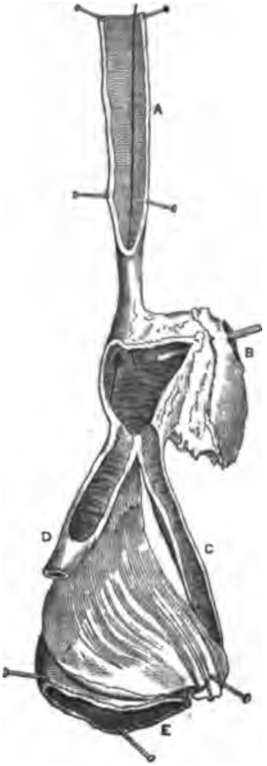
6th child, a male, born May 1st, 1845, after a very short and natural labour, well-formed and apparently strong and healthy: the meconium passed naturally: on the third day the child was jaundiced, and Mr. Young, of Kennington, who had previously attended this lady, most kindly called upon and informed me of the mode of death of the previous male children, and expressed his conviction that this child would die also from umbilical hæmorrhage, and supplied me with Ruspini's styptic to attempt its arrest. On the 4th day, the evacuations being scanty and almost void of colour, I prescribed Hydr. c. Creta, gr. iss., c. Conf. Aromat. gr. iij., and followed it by small doses of rhubarb in aromatic form occasionally, with the effect of producing three or four evacuations in the 24 hours, of slightly improved colour. On the 6th day, the cord separated from the umbilicus; there was nothing to remark beyond the jaundiced and somewhat inactive state of the child. From this time I undertook the dressing of the navel, and applied night and morning zinc ointment dusted freely over with powdered matico leaves. Suspecting the mother was not a good nurse, a wet nurse was with some difficulty procured. A small granular point alone remained unhealed *within* the umbilical pit on the 9th day. On the morning of the 10th day a slight stain of blood was seen on the dressing being removed from the umbilicus; the under surfaces of the matico leaves were now applied over the umbilicus, and a compress over them. At 3 P.M. I was sent for, the child being faint, and found, on removing the bandage from the abdomen, that the compress was sodden with blood: firm conical compresses of lint were made so as to fit *into* the umbilical depression, and firmly retained after being moistened with Ruspini's styptic, but did not appear much to control the hæmorrhage; one wetted with oil of turpentine was then similarly applied, and to all appearance checked it, but in less than two hours it recurred, and it was evident to Mr. Peppercorn (who was present) and myself, that pressure, with or without styptics, could not be depended upon for controling it: on watching the blood as it was seen to ooze in a fine undulatory stream from left to right, and in a direction upwards, showing that it proceeded clearly from the left umbilical artery, it was of a very light vermilion colour; coagula were scarcely traceable on the linen, &c., which had more the appearance of being stained by a thin-coloured fluid, than the usual stiffened stain of blood, We decided upon encircling the umbilicus with a double ligature introduced by a curved needle, but were shortly after compelled to surround it with a single ligature, as the blood began to ooze after a few minutes from the needle's punctures; this effectually controled it, but the child was already blanched and losing temperature; it was now kept warm and quiet, and frequently supplied with small quantities of breast-milk with a spoon, as it had not the power to suckle. On the 11th day it was still weaker; no return of hæmorrhage; could not suckle; nutriment could be got down only in very small quantities; two small petechial spots on the left arm; skin yellow and cold; child quiet, and breathing almost imperceptible; motions of pasty consistence and almost white: ordered beef-tea and milk to be administered if possible, beef-tea enemata, and small doses of sesquicarbonate of ammonia sheathed in mucilage every hour. The child continued gradually to sink, and died on the 12th of May, the 12th day after its birth, 6th day after the separation of the funis, and in about 46 hours after the commencement of the bleeding.

The examination was conducted by Mr. Hilton 26 hours after death. The body was full 18 inches in length, weight nearly 7 lbs., skin jaundiced, conjunctivæ slightly so, two purpuric spots on the left arm, abdomen tympanitic, testes descended.

Abdomen.—Muscles pale; peritoneum perfectly free from all evidence of any previous inflammatory action; the peritoneal surface of the umbilicus prominent, or bulging towards the spine, and indistinctly fluctuating; its colour darkened. The stomach externally had a marbled appearance: it contained about three ounces of beef-tea and milk; its internal surface was covered by a ropy brownish substance (blood acted on by gastric juice), which gave the peculiar stained or marbled appearance noted externally. Intestines, although natural, were here and there slightly reddened in the more depending portions; mesenteric glands numerous. Duodenum, jejunum, and ileum, contained but a small quantity of paste-like matter; the contents of large intestine trivial, and but slightly tinged with bile. Spleen of natural colour, large, soft, and fleshy; branches of splenic vein impervious. Pancreas normal. Liver of normal size, of olive brown colour; the acute margin ecchymosed. Gall-bladder not distended, but contained some mucus tinged with bile; the cystic, hepatic, and common ducts natural and pervious. Hepatic artery and branches normal. Splenic, mesenteric veins, and the portal vein, with its right and left branches, all pervious. The sympathetic branches beautifully seen in Glisson's capsule. The umbilical vein and venous duct open; the venous duct narrowed and somewhat funnel-shaped, being widest at its caval end. Inferior cava and hepatic veins open. Kidneys, ureters, and bladder normal. On inflating from the common iliac arteries (the femoral arteries being closed by temporary pressure), both umbilical arteries were found to be open as far as the umbilicus; but on the ligatures which had been applied during life to stop the bleeding, being removed, air did not escape from either artery at the umbilicus, nor did any air escape from the umbilical vein when inflated, yet a very fine probe passed readily through the vessels, and appeared at the umbilicus; the *left* umbilical artery was the largest, and contained a fine string of fibrine and a little fluid blood; the right umbilical artery contained neither blood or fibrine, and the umbilical vein was empty.

Chest.—On opening the chest the lungs did not collapse; both lungs were jaundiced, and presented numerous ecchymosed spots, especially on their posterior portions; a small quantity of yellow serum in each pleural cavity. Thymus and thyroid glands healthy. Phrenic nerves normal. Pericardium contained about a drachm of yellow serous fluid. Heart pale; right ventricle contained a little fluid blood; pulmonary artery and its valves normal. Ductus arteriosus cylindrical in form, size of a large quill; a probe passed without any obstruction from the pulmonary artery to the aorta; parietes of the duct thickened, more dense in structure than the aorta or the pulmonary artery, its inner surface corrugated longitudinally. The right and left pulmonary arteries natural, their openings larger than that of the ductus arteriosus. The auricles empty; the foramen ovale tubular and valvular. The left ventricle contained but very little fluid blood; there was no fibrine in any of the heart's cavities. The aortic valves three in number, one large and two small; the openings of the coronary arteries were covered by the smaller valves. The aorta normal in form and structure; its lining membrane yellow, and the blood in it fluid. Thoracic duct pervious, and contained a very small quantity of pellucid fluid. Splanchnic nerves normal. Thoracic ganglia and sympathetic nerves larger on the right side than on the left. Pneumogastric nerves normal. Vena azygos major normal, containing blood, which was readily pressed into the superior cava.

The accompanying drawing exhibits the condition of the blood-vessels near the umbilicus. It is a view of the parts from their peritoneal aspects: it exhibits their relations and chief features. The dissection was made the day following the inspection of the body.



B. Umbilicus, showing the external aperture through which the hæmorrhage occurred.
A. Umbilical vein, opened in part, and a bristle passed through its placental extremity.
C. Left umbilical artery.
D. Right umbilical artery.
E. Portion of urinary bladder.

It is worthy of notice that the two umbilical arteries, and the cavity in which they terminate, present a corrugated or transversely ribbed appearance; this corresponds precisely with what may be usually seen after death in arteries which for some time before death have not contained or transmitted their usual quantity, or scarcely any blood: and as this same condition extends to the dilatation which receives the umbilical arteries, it suggests the probability of there having existed some malformation at that part: a sort of common receptacle, in the form of a dilated artery, into which the umbilical arteries emptied themselves, from which the umbilical vein proceeded, and from which, also, the hæmorrhage took place through the umbilicus. It is evident that the usual healthy process of occlusion had not taken place in these umbilical bloodvessels, and the same kind of defect was manifested in the ductus venosus and in the ductus arteriosus.

Whilst attending upon the case related, I heard from a non-professional source of a lady losing her *four male* children from bleeding at the navel, after the separation of the cord: these children, I was informed, came out in purple spots before death, and were attended by the late Drs. Key and Babington. This lady gave birth to two healthy female children, who married and are supposed to be still living.

The following extracts are the only allusions to this form of hæmorrhage that I have at present been able to meet with:—

1820.—In the 5th edition of Professor Burns's Principles of Midwifery, &c., page 576, he writes: "Sometimes a day or two after the cord separates, or at the time of separation, hæmorrhage takes place from the navel. This may yield very readily to compression or astringents, but nevertheless may prove obstinate and fatal. The actual cautery has been proposed, or nitrate of silver, or cutting at the navel and applying a ligature on the end of the vein, which is supposed to bleed oftener that the arteries. I know from experience, that no compress can at all times be depended upon, except the point of the finger, and that cannot well be steadily applied for hours or days in succession; yet, in obstinate cases, I know no safer nor better plan, the assistant being relieved at proper intervals, for some time, both night and day. I give this opinion from finding other means, apparently more powerful, fail. Strong astringents, or escharotics, caustic applied so as to form an eschar, a ligature carried by means of a needle round the umbilical aperture and tied tightly, the twisted suture made by crossing two needles and working the whole navel tightly over with thread, have all failed, and appeared, by propagating inflammation to the peritoneum, to hasten death."

1822.—In the Transactions of the Medico-Chirurgical Society, 1822, is a fatal case of umbilical hæmorrhage, by G. Prout, Esq., communicated by the late Sir Astley Cooper. "It was a *male child;* the funis came off as usual, on the sixth day, bleeding commenced on the eighth day, and the child died twenty-seven hours afterwards (on the tenth day). The mother had previously lost two children under exactly similar circumstances, and had three fine children living." (No allusion is made to the sex of the three living or two previously lost.) The post-mortem examination revealed "the umbilical vein full of fluid blood, the umbilical arteries sufficiently pervious to admit a probe, the left still containing a plug of coagulated blood, from which it appeared the bleeding took place." Mr. Prout concludes by stating that "both arteries were so much retracted that it must have been impossible to have stopped the bleeding by pressure, and that he would not hesitate to cut down upon the arteries in another case, and tie them." In a paper on umbilical hæmorrhage, in the Edinburgh Medical and Surgical Journal, July 1832, by Dr. Radford, are related two cases: the first case occurred on the seventh day, shortly after the separation of the funis; compression and astringents only were employed; the child died. The second case occurred on the eighth day, immediately upon the separation of the funis, and was successfully treated by compression maintained by adhesive straps. Dr. Radford alludes to several other cases that came under his care, but all were fatal except the one detailed. He states that venous hæmorrhage from the umbilicus is most frequent, and generally fatal; that arterial is more rare, and the result more fortunate; he infers that compression is less available to restrain bleeding from the vein than arteries, from its anatomical situation and in its indisposition to contraction, and believes it would be successful if the blood proceeded from an artery, and suggests, if compression fails, cutting down upon the bleeding vein and tying it. Dr. Copland, in his Dictionary of Practical Medicine, alludes briefly to this form of hæmorrhage, and its general fatal termination.

Of the sixteen cases *distinctly* mentioned in this paper, nine *are reported as having occurred in males*; in the remaining seven cases no allusion is made to the sex by the reporters. Of the sixteen cases, fourteen proved fatal.

In the *Lancet*, October 1840, Mr. Lane records a case of almost fatal hæmorrhage (saved by transfusion) after the operation for strabismus, and details many others indicative of the hæmorrhagic diathesis, and arrives at the following conclusions: "That males only are subject to this peculiarity of constitution; that the father of a bleeder is always free from the disease; that the son of a bleeder is never affected by it; but that the bleeder inherits this diathesis invariably from his maternal grandfather."

Dr. Churchill, in his Operative Midwifery, writes upon this form of hæmorrhage, detailing Mr. Pout's case, and alludes to two other fatal cases, and suggests moulding plaster of Paris upon the umbilicus as a more probable successful mode of applying pressure.

Two cases are recorded in Dr. Rankin's Abstract of the Medical Sciences (Vols. 6 and 7); one a fatal case, detailed to the Edinburgh Obstetrical Society by Dr. Keiller. It occurred to a fine, plump male child, which was affected with vomiting from time to time. On the third day, the binder, &c. was discovered soaked with blood: the bleeding point was found to be at the root of the cord. Nitrate of silver temporarily arrested it: ultimately a ligature was applied around the umbilicus, but death shortly after ensued. The other case was treated by Mr. Hill. It occurred in an infant eight days old, before the complete separation of the cord; it had been bleeding five hours: Mr. Hill adopted the treatment suggested by Dr. Churchill. He first put a small compress on the part, and retained it by the pressure of the finger; he then mixed up plaster of Paris into a thick paste, and hastily removing the compress let the contents of the cup flow upon the umbilicus, when it immediately hardened: the cracks that occurred were coated with another layer. The hæmorrhage was restrained; the plaster was retained by a bandage, and removed after four days; there was no return of bleeding: and the author describes these papillæ on the cast, which he supposes occupied the mouths of the umbilical arteries and vein until the vessels became impervious.

The mother of the case I have fully related has been delicate since her accident, and attributes it to the large loss of blood, she being then seven months advanced in her first pregnancy; she suffers frequently from diarrhœa, and also from memorrhagia; has a feeble circulation, and almost satisfies her appetite with the name of food; her father was an only son, and died lately an octogenarian; I can trace no hæmorrhagic tendency to him. It is somewhat singular that the only *and male* child of a sister of this lady, died from hæmorrhage from *the funis* (not umbilicus) very shortly after birth. Her brother's children, male and female, are healthy. The paternal grandmother of the child gave birth to one blue child.

But little is said by authors respecting the period of change from fœtal to extra-uterine circulation, and the mode in which the fœtal vessels become closed. Dr. Radford, in his paper on Umbilical Hæmorrhage, remarks "that the pulsation of the funis should have ceased before the application of the usual ligature." I have on several occasions allowed the placenta to be expelled before tying the funis, and have found the vessels of the cord pulsating even after its expulsion, but not invariably so. On very many occasions have waited a quarter of an hour before applying the ligature to the cord, the arteries of which continued then to pulsate strongly, and did not cease until some time after the application of the ligiture, the pulsation being gradually lost from the ligature to the umbilicus.

On a late occasion, the cord of a female child was tied five minutes after its birth, about four inches from the navel, and was then pulsating strongly; twenty-five minutes after birth, pulsation, though not so strong, continued to the ligature; the pulsation then gradually diminished from the ligature to the umbilicus, and at thirty-five minutes after birth was perceptible only at the umbilicus.

On many occasions I have observed that infants have not cried or respired freely until the ligature had been applied, and frequently the tying of the cord has appeared to me to produce as hearty a cry as the titillation, irrigation, or ruder slap of the accoucheur, as if there was no very urgent call upon the respiratory functions untill the placental circulation was completely checked.

As to the mode in which the fœtal vessels become obliterated, I am at present disposed to believe that it is by the gradual contraction of their coats, and not by the formation of a clot within them. In the few children I have had the opportunity of examining under the age of one month or six weeks, I have not detected any trace of a fibrinous plug, but have generally been able to trace a canal in the vessels. I find, upon inquiry, that it is not uncommon for a *little oozing* of blood to occur after the immediate separation of the funis, which either spontaneously or readily subsides with compression; and it is not a little singular that I have seen this *slight oozing* in two *male* infants of an ill-fed poor woman, who nearly lost a former *male* child, from hæmorrhage from the funis, occurring some hours after birth. Hæmorrhage from the umbilicus I believe to be prevented by the contraction and by the retraction of the vessels (after the separation of the funis), and by the subsequent sealing by granulation and cicatrization. The formation of the umbilical depression is probably aided by this retraction, and some degree of internal traction on the remains of the umbilical vein and urachus being produced by the respiratory movements and distension of the bladder.

The jaundice observed in the cases related appears to me to be deserving of notice. Did it depend upon the partial atrophy of the liver immediately after birth, in consequence of the changes that occur in the circulation on the respiratory functions being established, the liver being then not the sole decarbonizer of the blood, as during fœtal existence; or did it depend upon inefficient nutrition? It is supposed, by some physiologists that the presence of chyme distending the small intestine is essential to the uninterrupted flow of bile into it; and if the intestine is empty, the bile accumulates in the gall-bladder and ducts, and may afterwards be re-absorbed into the blood. The presence of bile in the intestine has been proved by Schwann to be essential to nutrition. I have certainly seen jaundice most obstinate in infants inefficiently nursed. A patient of mine, who is never able to nurse more than a few months, has had six children, all jaundiced, and they have rarely lost their yellow skin under two months.

The treatment of umbilical hæmorrhage must be directed to the prevention or cure of it.

Preventive treatment.—Recognising the theory relative to the influence of the sexes in the reproduction of the species, that the male supplies the seed, and the female the soil or nutriment, I believe that the treatment primarily must be directed to maintain the general health of the mother during the period of utero-gestation; thus to ensure, as much as is in our power, the ability to bestow the nutriment so essential to the perfect development and organization of the fœtus; and, secondly, that we must be prepared with efficient means to supply the child after its birth with the nutriment most natural for it, and from a healthy source, that the assimilating functions may be stimulated and performed. After the separation of the funis I would suggest the application of collodium before applying the usual compress of soft linen, and urge the daily superintendence of the accoucheur: I allude, of course, only to cases where the disposition to this form of hæmorrhage is known or suspected.

Curative treatment.—Should the hæmorrhage, notwithstanding our precautions, occur, the administration of one or other of the remedies serviceable in purpura—as steel, gallic acid, &c., might perhaps be of some avail; but mechanical means must be adopted for *immediately* checking it; and in the employment of those means there must be *no delay*,—no loss of time by repeating an unsuccessful attempt, as every drop of blood is of vital importance to so young an infant. Should such a case occur to me again, I should first attempt to control the bleeding by pinching up the umbilicus between the finger and thumb in the same manner as I should pinch up the integument to control the bleeding of a leech-bite, maintaining that pressure, if successful, and coating the umbilicus, first filled with cotton wool, over with collodium, or employ plaster of Paris, as suggested by Dr. Churchill, if at hand. But, should it not be thus readily controlled, I should produce an eschar by means of a probe, director, or skewer heated to whiteness, coating afterwards with collodium. If unsuccessful, I should then proceed to tie the bleeding vessel, and adopt the mode suggested to me by Mr. Hilton, first introducing a fine probe into the bleeding vessel, to act as a guide for the incision, as well as to diminish, perhaps, the loss of blood. I do not recommend the immediate application of the ligature in these cases, from the impression that they are so allied to the cases reported as illustrative of the hæmorrhagic diathesis; and, consequently, deem it possible that hæmorrhage of a dangerous, if not a fatal character, might arise from the wound necessary for its application.

The President, in alluding to the hæmorrhagic diathesis, related a case of a very young child having died of hæmorrhage from a fissure in the lip and a slight scratch upon the thumb, and the only morbid appearances found after death were very fluid blood, without any fibrine or clot, and hypertrophy of the ganglia forming the solar plexus.

Mr. Taylor had never seen any cases of hæmorrhage from the umbilicus, excepting those taking place immediately after the separation of the cord, and which yielded to the simplest remedies.

Dr. Hughes admitted that his knowledge in these matters was very limited, but thought in the present case there were three things to be considered:—

1st. The malformation of the arteries at the umbilicus, resembling an aneurismal dilatation, opposing their retraction.

2d. The hæmorrhagic diathesis, which, however, he did not think was proved in the present case.

3d. The presence of jaundice.

In proof of the tendency of jaundice giving rise to an hæmorrhagic condition of the blood or of the vessels, he mentioned a case which was in Guy's Hospital about 18 years since, where it was found impossible to restrain the oozing of blood from the orifices after cupping, which of course ended fatally. He considered that, in the case now related, two or three of the causes may have contributed to the fatal result. He wished to know whether Mr. Young had examined the arteries in the former cases.

Mr. Ray believed that Mr. Young had not examined the arteries. The bleeding appeared to proceed from one granulation, the cicatrization being otherwise complete.

Mr. Sterry related a case which occurred in the family of a medical gentleman, and was seen by Dr. Blundell and Sir Charles Clarke: the hæmorrhage came from a granulating fungus; which, on being drawn out, and a ligature thrown round its base, the case terminated well.

The **President** said he had seen two cases where granulations existed at the umbilicus, of a cherry-like form, without any bleeding, and both easily cured by ligature.

Dr. **Murphy** considered that the constitution of the mother could not be in fault, or otherwise the female children would have been equally liable to hæmorrhage. The bleeding was the result of the hæmorrhagic diathesis, and to be combated chiefly by constitutional remedies, such as alum whey, &c. The best local applications would be oil of turpentine and a mould of plaster of Paris.

LIVERPOOL MEDICAL AND PATHOLOGICAL SOCIETY.

Feb. 8th, 1849.

Tumor in the Brain causing Dislocation of the Eye.

Dr. **Hibbert Taylor** brought forward the following case:—A young woman, æt. 22, of strumous habit, had very defective vision in the left eye, but the right was good. For six months she suffered from severe headache and dizziness, all objects appearing cloudy, and she frequently imagined that dark clouds passed before her eyes,—a symptom upon which Beer lays stress as indicating disease of the brain. She had no loss of memory or of sensation. The eye became prominent, being evidently pushed forward by some body behind it, and not attaining its prominence from any increase of its own size. It was at length so much protruded as to escape entirely from the orbit, and though at first returned with some difficulty, this at length became impossible, and the eye became permanently dislocated. Treatment was of no avail, and she died in seven years from the commencement of symptoms requiring attention.

Post-mortem.—A small quantity of fluid was found in the ventricles of the brain, which was not unhealthy in other respects, except the perical gland, which was enlarged to the size of a marble. A tumor, which, though attached to the brain, was external to it, and did not involve its substance, occupied the orbit, and extended through the optic foramen into the skull, involving the whole of the optic commissure. The tractus opticus could be traced into it on one side, but it was then lost, and could be traced no further. The tumor was about the size of half an orange, and moderately firm in its structure. It appeared like an early stage of cerebriform cancer.

Dr. **Hibbert Taylor** remarked that this case was opposed to one statement of Beer, viz. that disease of the brain, affecting the vision, affects both eyes alike; for here only one eye had its vision impaired.

Mr. **Banner** adduced another case in illustration of the same fallacy. A man had a protruding eye, which was removed, under the suspicion of its being affected with malignant disease. In twelve months he died from disease of the brain, but only one eye was affected.

Sloughing of the Vagina after Measles.

Mr. **Parker** remarked upon the slight notice taken of this affection by systematic writers. He read a description by Sir W. Watson, published in 1763, of several cases of mortification of the pudenda occurring after measles, but they were generally in feeble children. Dr. Watson wrote of it under the title of Putrid Measles.

Mr. **Parker**'s cases differed materially in this last respect, as nearly all the cases occurred in fine healthy children, who had no hæmorrhages or other signs of putridity. The sloughing commenced at various periods, from the first day of the eruption to the sixth after its disappearance. It was generally accompanied by diarrhœa, from which the patients sometimes sank, after having apparently overcome the effects of the sloughing. The gangrene, commencing in the labia, ultimately involved the whole vulva, perineum, and anus, extending deeply into the cellular tissue.

Death terminated *every* case generally in about a fortnight after the commencement of the disease. All the children affected were under four years old. Treatment did not produce any good effect.

Two children were at the same time affected with sloughing of the mouth, and one with sloughing of the anus; all of whom also died. In the last case the anus alone was affected.

Only one post-mortem examination could be obtained. In this case the viscera were generally healthy except the bowels. Peyer's glands were enlarged, the mucous membrane was generally hard and thickened, and there was slight ulceration of the margin of the ilio-cæcal valve.

Mr. **Parker** attached the most importance to preventive measures. The pudenda should be carefully washed twice a day, and if the slightest excoriation is present, the labia should be kept apart by lint and warm water.

Mr. **Banner** alluded to the frequent connection between disease of the bowels and of the vulva, and the tendency of children to excoriate the vulva by friction when suffering from irritation of the bowels.

PARIS ACADEMY OF SCIENCES.

Sitting of February 12.

Analysis of the Fluids in Cholera.

M. **Pelouze** communicated the results of the chemical analyses of the fluids of cholera patients. These analyses were made at Lille, by M. Corenwinder.

The object of these analyses was to ascertain the precise amount of albumen and common salt contained in the fluids; and for this purpose the liquid of the stools, the blood, and the fluid matter taken from the intestines after death, were each investigated.

The liquid of the stools was found to be either altogether wanting in albumen, or to contain it in but small quantities. Three analyses gave the following results:—

	Albumen.	Common salt.	Water.
1	0·28	0·384	98·76
2	nil	0·380	98·96
3	0·086	0·504	98·18

The fluids taken from the intestines furnished proportions of albumen varying from 1·5 to 2·2 per cent.

The following quantities of salt and of water were found in the blood taken from the body after death:—

Chloride of sodium.	Water.
0·185	75·330
0·275	75·110
0·212	75·110
0·069	71·000

Lastly, the composition of the serum taken from the system during life was represented by the following numbers:—

Water	87·000
Albumen	9·558
Salt	0·531

In examining the results of these experiments, M. Corenwinder draws from his investigations the following conclusions:—

A notable quantity of albumen is found in the liquids of the intestines; very little dry matter, little or no albumen, and much common salt, in the liquids of the stools. The proportion of dry matter increases in the blood, and the quantity of salt suffers a variable diminution, up to one-fifth of the weight of the blood in its normal condition. Lastly, the composition of the serum does not suffer any notable variation.

ROYAL INSTITUTION.

March 2, 1849.

Professor E. **Forbes** gave a lecture on the question—

Have new species of Organized Beings appeared since the Creation of Man?

Professor **Forbes** commenced by saying that it was by no means clear why such questions were not examined by naturalists. Some have said that they are too hypothetical; but Natural History comprises not merely the collection of facts, but also the discovery of general laws, more especially of the relations which man bears to other animals. It is the duty of naturalists to take up such questions as the present, and to show how far light can be thrown upon them; for if they do not take them up, others do, who, not understanding them, impose their erroneous views on the credulity of the public.

There are certain terms which it will be well to explain at the outset. With regard to *species*, there is no transmutation of one species into another.

Generic centre.—When certain species are grouped together in a district or space, the number of these being at a maximum at some part of the district, a generic centre in *space* is constituted. Where certain species are grouped together in successive geological formations, they form a generic centre *in time*. Great groups of animals and plants have been created at different times: for instance, the animals and plants found in chalk are generically different from those found in coal and the rocks associated with coal. In different regions of the world, and in different geological formations, there is a characteristic assemblage of animals and plants which form generic provinces in *space* and in *time*; the latter existing during the past or geological epoch, the former during the present or the human epoch.

Professor **Forbes** exhibited two maps, one showing the botanical, the other the animal regions. The two correspond remarkably, each animal region having a corresponding vegetable region. Each generic province has a centre, within which the characteristic species are developed in greater number and *intensity*.

Can natural history give any evidence of the creation of new species since the creation of man, or not? Sir Charles Lyell's "Principles of Geology" contains a full discussion of this subject. At the beginning of his interesting 44th chapter, he suggests that through the study of geological monuments, we may discover when man shared in the successive formations. An important part of the inquiry relates to the comparatively recent formations, geologically speaking, that have been formed since the tertiary period: to discover whether they were peopled, by land and sea, from new centres of creation, or whether their population has been derived from the older centres.

There is an advantage in inquiring at first into the aquatic population, as the hard parts of many of them, the shells, for instance, of the mollusca, are indefinitely preserved. We are therefore enabled to compare the older with the more recent species. The Baltic is an example of a region which we believe not to have been in existence during the tertiary period, or that preceding man. It presents a great extent of water, in such climatorial conditions that we might expect to find in it distinct centres of creation; but we find that it is peopled entirely by colonies, by migrations from older provinces, and that there is no evidence that it contains fresh centres of creation. The species are identical with those of the older seas. It may be objected that the Baltic is in the condition of a brackish water, and that therefore it contains no centre of creation; but in the brackish waters of anteglacial origin, in salt lakes, as the Caspian, we find centres of creation.

The Mediterranean is another example of a sea, the formation of which is believed to be posterior to the tertiary period. If we examine the myocene formations in the Mediterranean, we shall find an assemblage of centres of creation, quite different from those now peopling that sea, which, during the Myocene period, formed the northern part of a great Indian ocean. If we examine the Fauna of the Mediterranean, we find it to be the same as that of the Ægean, and also as that of the Black Sea, but in each instance it diminishes as we go eastward; and we discover from evidence, that the whole population migrated from the Lusitanian Sea. Since Professor Forbes described the specimens discovered in the Ægean by Captain Grave's expedition, many of the species not yet found in the Mediterranean have been discovered in the Atlantic.

With regard to terrestrial animals, the British Islands (which are post-glacial) are peopled by colonies from other countries, both as to plants and animals, there being no evidence of a generic centre. The smallness of the island is not the cause of this, as the small Gallipagos island, which was a lonely island long before the post-tertiary period, contains generic centres of creation.

In examining the geography of animals, we shall find it convenient to restrict ourselves to the snail. If we take Spain, we shall find that there are certain snails peculiar to that country, forming in it a generic centre, mixed up with the very numerous species of snails common to the Southern European countries. In examining the Pyrenees, we shall there again find certain peculiar species or generic centres, mixed with the common species of snails. If we pass to the Alps, we shall find another isolated centre of snail-creation. In Dalmatia and the neighbourhood of Greece, there is another group; in Italy, in the Caucasus, and in Syria, we shall find other centres of snail-creation confined to each province, and combined in each province with the snails common to the whole region.

If we go northward, to countries peopled at a more recent period, we find the same species of snails in general distribution, but there are no special centres of snail-creation. Excepting in lands older than the post-glacial era, we find no special assemblage of snails, animals, or plants.

The fresh efforts calling forth creative energy were all *antecedent* to the creation of man. In the eocene period, assemblages of animals and plants, not identical with any existing species, were called into existence. In the myocene period, there were some species which are now in existence. During the pleiocene and pleistocene periods, more of the species which form the present fauna came into existence. Between the glacial epoch and the present, a long period has elapsed; during that lapse of time, the majority of existing forms have appeared. Among these forms, and at a distance from them, man is evidently the last as he is the highest creative centre or impulse; this inference we arrive at on scientific grounds alone. Naturalists have linked man too closely with the lower animals. The closer study of the whole of creation has led the philosopher more and more to feel the difference between the lower creation and man.

Professor Forbes concluded his interesting lecture by replying to those who object to inquiries such as the present, that "whatever was worth God's while to do, was surely worth man's while to study."

Hospital and Infirmary Reports.

LONDON HOSPITAL.

A case of Lithotrity, with Clinical Remarks by John Adams, Surgeon to the London Hospital.*

Arthur Fladgate, æt. 56, a butcher, residing at Woodford, of a florid, healthy appearance, was admitted into the London Hospital Oct. 9th, 1848. He states that he has always enjoyed good health; his appetite good, and habits temperate. About eighteen months since, he perceived some difficulty in passing his water, which was voided with pain, and frequently stopped suddenly during the passage. The symptoms continued to increase, and became much aggravated about twelve months since, and from that time up to the period of his admission into the hospital he has suffered considerably from pain during the voiding of urine, which was from time to time tinged with blood: he had a frequent desire to pass urine, being sometimes called on to evacuate it ten and twelve times in the course of the night. A large quantity of glary mucus passed at each evacuation. His father was much afflicted with gravel, but his three brothers, who are older than himself, have been and are totally free from the complaint.

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* The case is reported by Mr. Mountford.

On the sound being introduced, a calculus was discovered, and by the clear ring communicated to the ear, was supposed to be of a hard compact nature, and was evidently of a large size.

Being a man of apparently sound constitution, and with an urethra of considerable dilatability, the propriety of attempting to break up the calculus by lithotrity at once suggested itself to us, and he was perfectly willing to submit to this method of procedure, although, if it should be deemed necessary, he was equally willing to be cut.

On the 14th of October, Weiss's lithotrity instrument was introduced, and the calculus was seized without much difficulty, and the screw being applied, it was at once broken. No attempts were made to break up the stone further on this occasion. The man was sent to bed. He passed his water afterwards without difficulty, but with some pain: a good deal of blood flowed, and a large quantity of mucus. On examining the contents of the urinal, a quantity of whitish sandy matter was found sticking at the bottom mixed with shreds of glary mucus. He continued to pass water more or less tinged with blood for some time, but the urine gradually became clearer, until all evidence of blood was lost. During the greater part of this time he was walking about the ward, and the only medicines ordered were occasional doses of castor-oil, with a solution of Bicarbonate of Potash, Nitrate of Potash and water, with Tincture of Hyoscyamus; he was directed to drink plentifully of barley-water, and to sit in warm water night and morning.

He had so far recovered as to be quite ready for another sitting on the 28th, when the instrument was again applied, and a further disintegration of the calculus was readily effected. No unpleasant symptoms ensued: he passed larger fragments of stone without difficulty, and a much larger quantity than before. On the 11th of November, a third crushing was effected, with the same facility and with the same results as the last. The fourth was performed on the 18th of November. No inconvenience followed the operation, but he was permitted to visit his family, and was attacked with a severe cold and fever, with irritation about the neck of the bladder and prostate; this subsided under the usual remedies, but it was not deemed prudent to attempt lithotrity again until December 9th, when the operation was repeated; the instrument was again used on December 16th, and the passage of some enormous pieces of stone were the result of the last crushing.

Since that he has been repeatedly sounded, but there is no evidence of the existence of any fragment of stone in the bladder: he has lost all the symptoms of stone.

Gentlemen, this case affords a favourable opportunity for me to make a few clinical and practical remarks on the subject of lithotrity, an operation now universally recognised as one of the greatest boons to suffering humanity. It is not often that we have had the opportunity of witnessing the performance of this operation; indeed, it is some years since it has been performed in this hospital, and I believe the reason of this is, that the cases presenting themselves for relief here have been of such a nature as to justify the immediate performance of lithotomy, rather than a resort to the more tedious process of lithotrity. The greater number of operations for stone performed here have been performed on children, who, from circumstances which I shall endeavour to explain, are clearly unfit subjects for lithotrity.

I shall first direct your attention to the peculiar features of this case, and after remarking upon them, and the operation in general, I shall conclude with a few general observations on the operation itself. There could scarcely be found an individual better adapted to our purposes than the one before us. A man of good constitution, of temperate habits, with comparatively little irritability of the urinary organs, and, which is of very great importance, with a very capacious bladder and readily dilatable urethra. It is true that at the first sitting he was passing a large quantity of ropy mucus with his urine,—the consequence of the irritation of the stone, nevertheless it was apparent that he was not labouring under any serious inconvenience from this cause, as he was enabled to go about his ordinary business without much trouble or any great pain in passing his water. When I first saw this patient, a sound was passed into the bladder, as I was told that a surgeon in the country, Mr. Carey, of Woodford, had pronounced his case one of stone. I did not perceive the calculus at the first sounding, a circumstance which I attribute to my having examined the man in the erect position, the calculus probably having slipped behind the prostate gland. When he was examined by Mr. Andrews in the recumbent posture, the stone was struck at once with the sound, and there could be no doubt about the nature of the case. The examination by the sound at once impressed us with the idea that the calculus was hard, and at the same time large: the idea of its hardness has been modified since, and perhaps, from what has been observed since, it would be better to apply the expression brittle to it rather than hard.

Here, then, was a man of a suitable age, of good constitution, with a capacious bladder, and large urethra; at the same time with a stone large, and giving the idea of hardness. The latter circumstances are certainly rather unfavourable to lithotrity, but nothing could be more favourable than the former conditions. Such being the state of the case, it was resolved to attempt lithotrity, and, in the event of a failure, to perform the operation of lithotomy. The result is before you.

With regard to the operation, I have but to make a few observations: it is usually one of no great difficulty, and the following are the steps successively to be pursued in its performance. Having satisfied yourselves of the existence of a stone, a catheter is to be introduced, and the water remaining in the bladder is to be drawn off: this is an important step, as without it you cannot tell the quantity of water that you may with safety inject; having done this, you proceed to inject the bladder for the purpose of unfolding its coats and defending its mucous membrane from the contact of the lithotrite. The lithotrite is then to be carefully passed, and the stone felt with it: there is seldom much difficulty in this, but the difficult part of the business, namely, the seizing of the calculus, now begins. In order to accomplish this with facility, the instrument should be pressed to the back part of the bladder; the handle is to be raised, by which its curved extremity is depressed; and the lithotrite is to be carefully opened. You perceive that by this manœuvre you obtain as large a space as possible for the opening of the instrument; and at the same time, by rather forcibly depressing the end of the instrument, you naturally depress the inferior surface of the bladder, and thus, narrowing the viscus in the transverse diameter, the stone readily falls between the jaws of the lithotrite: this is at once ascertained by endeavouring to press together the two parts of the instrument. Having ascertained the seizure of the stone, you draw the instrument forwards to the centre of the bladder, and set to work with the screw and break up the stone. If the stone escape the instrument, the rectangular bed is to be depressed so as to favour the rolling of the stone towards the separated jaws of the lithotrite: sometimes a gentle shake of the lithotrite will move the stone into it. I need scarcely observe that the seizing of the stone with facility is one of the most important points in the operation. Now in reading the work of Heurteloup on the subject of lithotrity, I do not find any directions given as to the best mode of effecting this desirable end: indeed, it appears rather kept out of our view, I do not say designedly, but at any rate you are directed to adopt such and such a proceeding when you have secured the stone, but you are not directed how to do this. On reference, however, to the writings of Sir Benjamin Brodie and Mr. Key, I find ample directions to this end; and I consider it highly necessary to insist on this point, as without a due attention to it you may go fumbling with the instrument, opening it and shutting it, turning it to the right and to the left, upwards and downwards, to the great and often fatal injury to the bladder.

Having succeeded in breaking the calculus, if the patient is not suffering pain you may endeavour in the same manner to take hold of a fragment and crush it, always taking care to screw your instrument completely home; and thus three or four pieces may be broken up at the first sitting. At successive intervals of four, five, or six days or more, according to the sufferings of the patient, the instrument may be again applied, so as to break up the entire stone and favour its expulsion. Do not annoy your patient by washing out his bladder, but leave it to expel its contents by the natural efforts.

In the case before us, after the operation the patient complained of a slight degree of pain on his passing his water, and the water was bloody and loaded with thick tenacious mucus: entangled in the mucus there were traces of the debris of the calculus in the form of white sand. He did not pass many fragments after the first sitting: he was ordered a hip-bath night and morning. All irritation speedily subsided, and the operation was repeated at intervals, until the whole of the stone was broken up and had passed by the urethra; some of the last fragments being of very large size: they were, however, voided without any extraordinary pain.

In regard to the getting rid of the contents of the bladder, I am strongly of opinion that the less interference there is on the part of the surgeon the better. Let the patient drink freely of barley-water, and give him an alkaline mixture with tincture of hyoscyamus, and you will find the bladder relieve itself much better than you can relieve it by the aid of any instruments, however ingeniously contrived. I am averse to the exhibition of opium after the operation, unless the patient should have a shivering fit, and then it may be desirable to employ it: opium has the effect occasionally of inducing retention of urine, and therefore I would not use it unnecessarily: a dose of castor oil may also be given the morning after the operation, and the hip-bath is to be employed, as in this case, night and morning.

In reference to the case before us, I am not aware that any further observations need be made; no case could be more favourable for the employment of lithotrity, and nothing could be more successful than its employment. And, although the successive crushings occupied some time, and although, probably, the operation of lithotomy might have expedited the cure, yet who is there amongst us who has watched the progress of the case, but would be disposed to prefer an operation so trifling in its nature, although a frequent repetition is required, to that of lithotomy with all its formidable paraphernalia and its not unfrequently fatal consequences?

You must not imagine that all cases will be equally successful; symptoms of severe vesical irritation will, in many cases, supervene upon the crushing, and the operation of lithotomy will thus become requisite to save the patient's life. You will find cases of this description in a paper of Mr. Key on a comparison between lithotrity and lithotomy, in the 2nd volume of the Guy's Hospital Reports,—a paper that ought to be perused by all. I remember that Mr. Headington, formerly a surgeon of this hospital and one of the ablest surgeons this country ever produced, used to mention the case of a child who was sounded for stone; and the existence of a stone having been ascertained, the child was sent to bed, and to the astonishment of the surgeon, died on the following day, as it was proved after death of acute inflammation of the bladder, the stone being broken to pieces. Now this may happen to the adult, but it is not common; it appears from the experience of lithotrotists, that a permanent and intractable chronic inflammation of the bladder more frequently occurs, or abscess in the prostate, which leads to the destruction of life.

In children and boys under the age of puberty, the operation of lithotomy is still preferred, because of its comparative simplicity in children, and because the urethra is not large enough to permit fragments of even moderate size to pass.

In the cases referred to by Mr. Key, in his paper, it should be borne in mind that the instruments then in use were by no means so well adapted for the purposes of lithotrity as the simple screw instrument now employed. They consisted of a variety of ingeniously contrived machines adapted for drilling and excavating calculi, and for grinding up the fragments into powder, the stone having been first seized with a three-pronged forceps. Baron Heurteloup, a splendid manipulator, contrived his instrument and rectangular bed, so that a stone being seized, and the instrument fixed to the bed, an iron hammer or percuteur was employed to break the stone to fragments. I remember seeing the Baron in this theatre perform most successfully an operation of this nature; but I believe these instruments have all given place to the simple screw-lithotrite of Weiss, which is the most simple, and by far the most efficacious, and I do not see that this is capable of much further improvement.

If you refer to the works of Ambrose Paré and Hildanus, you will see representations of instruments for breaking up stones when impacted in the urethra, very similar, indeed, to those lately in use for crushing calculi in the bladder, and it is probable that modern lithotrotists took a hint from these; but this is a matter of history to which I need not further allude.

A careful analysis of the stone has been made by Mr. Mayer and Mr. Bloxam, at the Royal College of Chemistry, and the following is their report. The stone weighed half an ounce. I give you their extended account of the analysis, that, if you please, you may repeat it for yourselves:—

"The calculus examined by us consisted almost entirely of organic matter: it left, upon ignition, a very slight trace of ash,—indeed, so slight as to induce the belief that it was merely an impurity, and not an essential constituent of the stone.

"The discovery of so large an amount of organic matter led naturally to the supposition that it was a calculus of uric acid. We therefore at once boiled the powdered calculus with potassa, which should entirely dissolve the uric acid. By this means a partial solution was effected. The potassa solution was decanted and mixed with an excess of dilute hydrochloric acid, which separated, after some time had elapsed, a number of minute crystals of uric acid. The presence of uric acid was confirmed by dissolving the calculus in dilute nitric acid, and adding ammonia to the evaporated solution, when a beautiful purple colour (due to murexide) made its appearance.

"The *residue* which did not dissolve in potassa was again boiled with a fresh portion of the latter: it still, however, remained undissolved.

"Of the nature of this residue it is impossible to attain to any accurate idea without a rather extended investigation, requiring a large amount of the substance in question.

"However, be this residue what it may, we are of opinion that the essential constituent of the calculus is the uric acid, and that this substance, when deposited in its present form, carried with it the other organic substance (whether it be derived from the urine or from the urinary passages) which occurs with it in considerable quantity.

"CHARLES L. BLOXAM,
"JOHN E. MAYER, H.C.S."

"Laboratory of the Royal College of
Chemistry, Feb. 14, 1849."

I may just mention to you the elementary composition of uric acid, namely—

	Av.	
Carbon	36·08	=5
Nitrogen . . .	33·36	=2
Oxygen	28·12	=3
Hydrogen . . .	2·44	=2
	100·00	

Correspondence.

THE MANCHESTER MEDICO-ETHICAL ASSOCIATION AND LIFE INSURANCE SOCIETIES.

SIR,—The Committee of the Manchester Medico-Ethical Association will be obliged by your inserting in the columns of your journal the following report of their proceedings during the past year, in reference to the payment of fees by the life insurance companies to the medical referee of applicants for insurance.

At an early period after the Association was organised, the Committee endeavoured to effect a settlement of this vexed question. For this purpose a sub-committee was appointed, in February 1848, to prepare a circular containing such proposals as should be satisfactory to the profession and advantageous to the companies. In framing this document the Committee aimed at establishing the following conclusions:—1st. That the profession have a just claim to remuneration for the certificates required from them by the life assurance offices. 2d. That the assurance companies alone are responsible to the profession for the payment of an adequate fee. And 3d. That the recognition of such claim would greatly subserve the interests of the companies. The Committee carefully weighed the arguments commonly adduced in support of the course at present adopted by most of the offices, which are chiefly these—1st. That the payment of a fee to the applicant's medical referee would render him, in a legal sense, the paid servant of the Company, and that consequently his evidence could not be used by them should a dispute arise regarding the policy. 2d. That a risk would be incurred of fictitious applications being made at the instance of unprincipled medical men for the sake of obtaining the fees. 3d. That in cases where the proposal is declined no profit accrues to the Company; and 4th, that the medical expenses preliminary to the contract between the Office and assurer ought in fairness to be divided equally between the two parties. With a view to meet these objections, and at the same time to maintain the conclusions previously established, the following proposals were made to the Companies:—"1st. That the Assurance Companies pay a fee to the medical referee of the applicant for life assurance, on the understanding that the former, before making his report, have, when circumstances permit, an interview with the said applicant. 2d. That the agent of the Company require of the applicant, at the time when the proposal is first made, the deposit of his proper share of the medical expenses. 3d. That the fee paid by the Office to the medical referee of the applicant be, for a policy under £500, half a guinea; for a policy of £500 and upwards, one guinea."

The circular containing these proposals was published in the medical periodicals of March last, and a copy was forwarded to each Assurance Company in the kingdom. A protracted correspondence ensued, the result of which may be briefly stated in the following analysis:—Offices that consented to pay, 15; that will not pay, 41; that did not reply to the circular, 62. The Committee, feeling dissatisfied with this result, were anxious to obtain the opinion of the profession in Manchester and its neighbourhood on the merits of the proposals, and to ascertain the extent of co-operation that might be expected, should they recommend the profession to decline acting as referees without the payment of a fee by the Company. To this end circulars were issued, and a canvass of the profession established; and the Secretaries have, up to the present date, ascertained that about half the medical men in this city and its immediate neighbourhood are disposed to cooperate in refusing to supply the Offices with the requisite certificates without a fee. Of the consent of others they entertain no doubt when the canvass has been more carefully made.

The Committee are, however, of opinion that they must have promises of support from a much larger proportion before they can recommend the profession to take so decided a step as the one contemplated. In the meantime they have circulated among their own members the subjoined list of the Companies that have agreed to their proposals, which they request you now to publish for the benefit of the profession at large. Finally, the Committee are determined not to relax their exertions in bringing this protracted dispute with the officers to a successful termination; and as a powerful auxiliary means, they recommend the establishment of local associations for the same object, that so the union of numbers may effect what cannot be accomplished by separate and disjoined efforts.—We are, sir,

Your obedient servants,
RICHARD ALLEN, } Hon. Secs.
JOHN AIKENHEAD, }

Manchester,
February 19th, 1849.

Britannia, 1, Princes St., Bank, London.
Professional, 76, Cheapside.
British Mutual, 17, New Bridge St., Blackfr.
Yorkshire, York.
Church of England, Lothbury.
National Mercantile, Poultry, Mansion Ho.
Solicitors' and General, 57, Chancery Lane.
Westminster & Gen. 27, King St. Cov. Gard.
General Benefit, 4, Farringdon Street.
English Widows' Fund, 67, Fleet Street.
Legal and Commercial, 73, Cheapside.
Medical, Invalid, & General, 25, Pall Mall.
Engineers, Masonic, & Univ., 345, Strand.
Star, 44, Moorgate Street.
London Indisputable, 31, Lombard St.
Royal Farmers' and General Prudential, 346, Strand. [Recently consulted.]

A CASE OF STRANGULATED FEMORAL HERNIA TREATED SUCCESSFULLY BY THE OPERATION RECOMMENDED BY MR. GAY.

BY P. L. BURCHELL, M.R.C S.

ELIZA CRANFIELD, of 5, Carter's Rents, Cooper's Gardens, Hackney Road, æt. 69, a charwoman, not overburdened with adipose tissue, the mother of ten children, a widow for the last twenty years, had enjoyed a good state of health till, during some extra exertion about eight years ago, a femoral rupture was produced on the left side; since that period she has occasionally been much troubled by the protrusion, although it has always been reducible by her own efforts with more or less difficulty. Bowels usually regular, habits temperate.

After a descent of the hernia on the afternoon of Sept. 21st, 1848, she was seized at six o'clock the following morning with violent pain in the region of the navel, extending down the left side of the abdomen to the seat of the tumor, which she observed to be larger on this than on any previous occasion; vomiting soon came on, and as her friends became alarmed I was sent for. I saw her about nine o'clock, and found a femoral hernia, of the size of a pullet's egg, on the upper and anterior part of the left thigh, exceedingly tender to the touch, as was also the abdomen in its vicinity, and slightly tympanitic. Her pulse was quick and wiry; countenance anxious; skin hot and dry; she vomited stercoraceous matter almost incessantly; and bowels not relieved since the previous evening; she complained of feeling very bad and sick, and of pain, chiefly of a dragging kind, around the navel. As the reduction of the hernia could not be effected by the ordinary means, and the symptoms gradually became very urgent, I determined to divide the stricture as early as possible, which I did about ten o'clock, with the kind assistance of my friend Mr. Gay, in the presence of Dr. Catherwood and other gentlemen. The operation performed in this case was that recommended by Mr. Gay, an admirable description of which he has since published in his treatise on "Femoral Rupture." My patient being completely under the influence of chloroform, I made an incision, about an inch in length, to the inner side of the tumor, midway between it and the spine of the pubis, its direction being obliquely downwards, commencing over the inner part of the femoral ring. The superficial fascia having been divided, the finger easily reached the seat of stricture, situated, in this instance, chiefly at the border of Gimbernat's ligament, which, together with a few fibres in front of the neck of the sac, I partially divided with Turner's knife (a concealed bistoury).

Slight pressure was now made upon the swelling, and it was completely and easily reduced; the lips of the wound were brought together and dressed in the ordinary way; scarcely a drop of blood was lost; the patient had been perfectly unconscious of pain; the bowels acted three times during the day without medicine; the wound healed kindly in forty-eight hours; and she recovered without any bad symptoms. A small abscess, however, formed a few days after the operation, in the vicinity of the incision, arising, I believe, from the want of cleanliness and attention on the part of the nurse:—this, on being opened, discharged itself and healed. My patient remains quite well at the present time.

1, Kingsland Road,
Feb 27, 1849.

ROYAL COLLEGE OF SURGEONS.

GENTLEMEN admitted Members on Friday, March 2nd, 1849:—P. Allen—G. F. Gwyn—J. G. Gibbs—J. Smith—W. H. Johnson—W. R. Hayn—W. Cooke.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 1st March, 1849.—John Prowse, Somerset—William Webb, Shrewsbury—Thomas Crowther, St. John's, near Halifax—Richard Skinner Henning, East Brent, Somerset — Thomas Harrison Marshall, Kingston-upon-Hull—Frederick Whitbourn, Epsom—Freeman Izod, Esher.

Medical Intelligence.

PROGRESS OF THE MALIGNANT CHOLERA IN GREAT BRITAIN.

It is satisfactory to observe that the Cholera makes but little progress in the metropolis or elsewhere. The deaths from this disease registered last week were thirty-five,—a fact which confirms the opinion that the cholera is progressively declining. The cases and deaths up to the 7th inst. are as follows:—

	Cases.	Deaths.
London . . .	1163	600
Provinces . .	975	423
Scotland .	11,731	5086
	13,869	6109

UNIVERSITY COLLEGE HOSPITAL.

The annual meeting of the governors, council, and members of this College was held last week at the College, Mr. Warburton, M.P. in the chair. The annual report stated, that during the session of 1847-48, 315 pupils in medicine, 252 in the arts, and 306 pupils of the junior school, had entered the College, the fees paid by them amounting in the whole to £15,302. 14s. The council had, during the session, been informed that the existing library and lecture-rooms were not large enough to accommodate the pupils, and they had therefore engaged Mr. Donaldson, the architect, to erect premises in the rear of the hospital, in place of the erection destroyed by fire in 1836. The basement floor was for models of machinery and drawing; and there were also two large rooms, each to accommodate 150 students. The cost of the building, which was nearly finished, would be £7,657. The committee regretted that the funds of the hospital were not in a flourishing condition; they have lately been £3,000 in debt. To meet this demand, £1,200 had been raised by subscriptions. A Mr. Kennedy had bequeathed the sum of £500; Her Majesty had that morning presented them with £300 out of the estate of the late Mr. Sawyer, of York; and there were several other sums, amounting to £1,600, which would enable them to clear the income of the hospital from encumbrance. There were 120 beds in the hospital, and there would soon be increased accommodation. The committee had to express their deep regret at the loss of the Earl of Auckland, their late vice-president, and also for the deaths of Mr. Liston and other gentlemen of note, whose talents were much missed. The expenditure of the College had exceeded its income by £300, which they had to draw from the funded stock, and, though the number of the pupils had greatly decreased, they attributed that to the depressed state of the nation. The report was received, and, after the transaction of some further business, the meeting separated.

EASTERN DISPENSARY.

A DINNER in aid of the funds of this Society took place last week at the London Tavern, being the first for fifteen years held for that purpose. A highly respectable company, numbering about 130, sat down to dinner, and in the evening, subscriptions were announced to the amount of £1,200; to this the chairman's list contributed the large sum of £390. The result must be looked upon as highly satisfactory, since it is greater than that of the last dinner, fifteen years ago, when his Grace the Duke of Wellington, who is president of the charity, presided. For some time past the financial condition of the Dispensary has not been so flourishing as its friends could have wished. But brighter prospects appear to be now opening upon it, and the erection of a new building in a more conspicuous position than that occupied by the old one, is contemplated. The charity has now been in existence for sixty-six years, during which period it has given relief to more than 115,000 patients.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST.

The number of patients that have been relieved from the 13th of June, 1848, to the 24th of February, 1849, is 3,102. Patients' attendance for the week ending Feb. 17, 717; for the week ending Feb. 24, 767.

ORTHOPÆDIC HOSPITAL.

The annual general court of the governors of this hospital was recently held in Bloomsbury Square. The annual report stated that the total number of patients during the year was 1,130, the greater part of whom were cured or relieved. Many patients remain now in the hospital, two of whom had been sent by Her Majesty's command. They are two children afflicted with double club feet, and who belong to a poor family, four of whom are similarly deformed. There were 270 patients waiting for admission, for although several additional beds had been set up during the year, the funds of the hospital were quite inadequate to the demands upon them. The income for the year amounted to £1,636. 12s., and the expenditure to £1,569, leaving a balance of £66. 13s. 3d. This report was unanimously received and adopted, and after the transaction of the usual business the meeting separated.

THE MANCHESTER MEDICO-ETHICAL ASSOCIATION.

The members of this Society held their first annual dinner on the 24th ult. The chair was taken by Dr. J. L. Bardsley. The chairman, in the course of his address, announced that there were now seventy-three members of the Association: he regretted that many eminent practitioners had as yet withheld their co-operation, and had refused to join the Society. He showed that the objections which had been urged against the establishment of the Association were futile, and that its object was to promote good will and good faith among the members of the profession. Mr. Allen, the founder of the Association, stated that the code of etiquette established for their government worked well, and that in the medical profession they occupied the same position as the Incorporated Law Society among lawyers. He then remarked upon the necessity of adopting measures of protection in reference to insurance certificates—illegal practice—the treatment of medical witnesses by coroners—and the unauthorised use of the names of eminent medical men by druggists in advertising their quack nostrums. The meeting was then addressed by Dr. S. Bradley, and other gentlemen, and the members afterwards separated.

LONDON HOSPITAL.

Mr. Nathaniel Ward was elected, on the 7th instant, Assistant-surgeon to this Institution.

OBITUARY.

On the 23rd ult., at his residence, Canonbury Lodge, Canonbury Square, Islington, Mr. Edward Roe, surgeon, in the 49th year of his age.

On the 26th ult., at his house in Keppel Street, Russell Square, Dr. Leonard Stewart, aged 51.

Selections from Journals.

SURGERY.

CASE OF WRY-NECK.—SUBCUTANEOUS SECTION OF THE RIGHT STERNO-MASTOID MUSCLE.

The patient, aged 16, admitted into St. Vincent's Hospital, under Dr. Bellingham, January 20, labouring under wry-neck; the head is drawn towards the right shoulder, while the shoulder on that side seems to be elevated towards the head; the eyes and mouth appear to be oblique, and to incline towards the affected side. The sterno-mastoid muscle on the right side becomes very rigid when the head is inclined towards the opposite side, particularly its clavicular origin.

The patient states that when very young he suffered from a swelling near the angle of the jaw of the affected side, subsequent to which the head was drawn towards the shoulder on that side. He has undergone no treatment; the deformity, he thinks, is increasing, and he is very anxious to have something done for its relief.

January 28th.—As the case appeared to be a favourable one for the subcutaneous section of the sterno-mastoid muscle, and as the clavicular portion of the muscle appeared to be the most tense, it was determined to divide it first.

A fold of skin over the clavicular insertion of the muscle was pinched up, and a narrow straight bistoury passed under it; the edge of the knife was then turned towards the muscle, and by cautiously pressing upon its back, the muscle being kept completely on the stretch by inclining the head to the opposite side, the fibres were divided until no further tension was felt; a loud crackling noise indicated the division of the tendinous fibres, and the patient complained of a good deal of pain at the moment. A piece of lint was laid upon the little orifice with some strips of adhesive plaster over it. A stiff stock was next put round the patient's neck, so as to keep the divided ends of the muscle apart, and the patient placed in bed; the arm of the affected side was then fastened by a bandage to the knee.

29th.—The patient has scarcely suffered any pain since the operation. A stiffer stock was now substituted for the former, and a bandage was rolled round the head, one end of which was passed under the axilla of the sound side, so as to incline the head towards that side.

Some days subsequently it was deemed advisable to divide the sternal portion of the origin of this muscle. The bandages, &c., were then reapplied as before, and in about three weeks the patient was well enough to leave the hospital, the deformity being scarcely perceptible. He was directed to wear the stock, and to continue the bandage for some time longer.

Remarks.—Under the term Torticollis or Wry-neck, a variety of affections, differing in their seat, nature, and cause, were included by the older writers, which, however, had only the one symptom in common—viz. that the head was permanently inclined towards one or other shoulder, occasioning more or less deformity,—such as disease of the cervical vertebræ, a rheumatic affection of the muscles or ligaments of the cervical spine, paralysis more or less complete of one sterno-mastoid muscle, and the contraction of the cicatrix left after the healing of a burn.

These are not, however, to be regarded as examples of torticollis; the term should be restricted to cases in which the muscles alone which draw the head towards one side are contracted and shortened, and the muscle usually engaged is the sterno-cleido-mastoid.

The cause of this contraction and shortening of the sterno-mastoid muscle which produces wry-neck has not been accurately made out; in some instances it evidently depends upon a vicious habit acquired by the patient when young of keeping the head for a long time bent towards one side, owing to swelling, inflammation, or some other painful affection of the neck, which was relieved by this posture, and when the disease which occasioned this constrained position was cured, the muscle having been long retained in a shortened or contracted state, and not being extended without some pain, the little patient, to avoid this, continued the unnatural position, and the contracted condition of the muscle became permanent. We sometimes see a somewhat analogous example of deformity, in which, however, the head is bent forward, in children who have long been the subjects of neglected strumous ophthalmia; this vicious position having been long retained, owing to the great intolerance of light. In not a few instances, however, wry-neck would appear to be congenital, or to be the result of injury, though unaccompanied by any lesion of the integuments. Of four cases given by Mr. Kirby in his Essay upon the subject, the disease was congenital in three—in the remaining case it was the result of a fall from a horse some months previously.

The appearance of a patient who has long laboured under wry-neck is peculiar; the head is not only more or less inclined towards the shoulder, but the shoulder appears also to be elevated towards the head; the eyes do not seem to be upon the same plane, and the mouth likewise appears to be obliqne, inclining towards the diseased side.

The only operation formerly in use for the relief of this deformity—viz., cutting through the integuments as well as the fibres of the sterno-mastoid muscle, does not appear to have been often practised. Mr. Kirby, in his Essay to which I have alluded (published in the year 1819), states that there was no record of its having been performed in this city for seventeen years previously; indeed, in the first case in which he operated, Mr. M'Evoy, a surgeon much his senior, who assisted him, was (he tells us) altogether averse to its performance.

The first account we have of the successful performance of the operation for wry-neck by the subcutaneous section of the sterno-mastoid muscle, was in the practice of Dupuytren in the year 1822; the subject of the case was a young female, in whom the operator was anxious to avoid the disfigurement of a cicatrix in the neck, and it was perfectly successful. This operation (which was perhaps the earliest example of the subcutaneous section of a muscle for the relief of a deformity) does not appear to have been ever repeated by Dupuytren, it was never recorded by him either, and it became known to the profession only from the reports of others who happened to have been spectators. Its success in this instance, however, appears to have induced other surgeons to adopt the practice; and in the hands of Dieffenbach, Stromeyer, and Guerin, it has proved highly successful. To the latter surgeon the merit is principally due of applying the principle generally to the relief of deformities.

According to M. Guerin, the sternal portion of the sterno-mastoid muscle is principally engaged in keeping up the deformity in cases of wry-neck, and he considers the section of this origin of the muscle to be sufficient for its relief in the majority of cases. Indeed he looks upon the sterno-mastoid muscle as composed of two distinct muscles, the functions of which are different, a sterno-mastoid and a cleido-mastoid,—the former being a motor of the head, the latter being essentially a muscle of inspiration.

In the present case, however, as well as in others which have been reported, the clavicular portion of the sterno-mastoid muscle had the principal share in maintaining the deformity; but its section was not sufficient to remove it, and it was subsequently necessary to divide the sternal origin of the muscle.

In the subcutaneous section of tendons or muscles, it has been a question whether it is most advisable to divide the fibres from without inwards, or in the opposite direction. The method of proceeding which appears to be freest from risk is to make the section from without inwards; though when the plan recommended by M. Guerin can be adopted, it appears to be equally safe—viz., to pass the finger behind the contracted muscle, and isolate it from the subjacent parts, then to pass the knife under it, and divide the fibres, making the section from within outwards.

The success of the treatment of congenital and other deformities, by the subcutaneous section of muscles, depends as much upon the after-treatment as upon the operation; and it is always necessary to adapt some mechanical apparatus to maintain the parts in a proper position; this applies equally to the operation for wry-neck as to anything. In the present case, this indication was fulfilled by placing a stiff stock around the patient's neck, securing the arm of the affected side by a roller to the knee, and applying a bandage to the patient's head, which was then passed under the axilla on the sound side.—*Dublin Medical Press.*

BOOKS & PERIODICALS RECEIVED

FOR REVIEW.

Edinburgh Monthly Journal. March.

Medical Missions. An Address to Students. By James Miller, F.R.S.E. &c. Professor of Surgery.

Cod-Liver Oil: its Uses and Mode of Administration. By John Rayner.

The Brain the sole Centre of the Human Nervous System. By Edwin Lee. Read before the Royal Society, Edinburgh.

The Undercliff of the Isle of Wight: its Climate, History, and Natural Productions. By G. A. Martin, M.D.

The Calling of a Medical Student. Four Sermons. By E. H. Plumptre, M.A. Chaplain, and Divinity Lecturer, King's College.

The British Record of Obstetric Medicine. March, 1849.

Pharmaceutical Journal. March, 1849.

Two Notices of the Obstetric Air-tractor. By Dr. Simpson.

The Ethnological Journal. No. 10. March.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Feb. 24.

BIRTHS.		DEATHS.		*Av. of 5 Win.*	
Males....	788	Males....	562	Males....	592
Females..	759	Females..	576	Females..	577
	1547		1138		1169

CAUSES OF DEATH.		*Av. of 5 Win.*
ALL CAUSES	1138	1169
SPECIFIED CAUSES	1136	1164
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*..	310	221
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	42	54
3. Brain, Spinal Marrow, Nerves, and Senses	134	141
4. Heart and Bloodvessels	46	40
5. Lungs, and other Organs of Respiration	204	243
6. Stomach, Liver, and other Organs of Digestion	55	67
7. Diseases of the Kidneys, &c...	10	13
8. Childbirth, Diseases of the Uterus, &c.	5	9
9. Rheumatism, Diseases of the Bones, Joints, &c.	8	7
10. Skin	0	
11. Old Age.....	51	73
12. Sudden deaths	12	14
13. Violence, Privation, Cold, &c.	35	37

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	11	Convulsions	37
Measles	12	Bronchitis	83
Scarlatina	37	Pneumonia	81
Hooping-cough ..	69	Phthisis	126
Diarrhœa	20	Dis. of Lungs, &c..	12
Cholera	35	Teething	10
Typhus	44		
Dropsy	14	Dis. of Stomach, &c.	4
		„ Liver, &c...	8
Hydrocephalus....	31		
Apoplexy..........	28	Childbirth	4
Paralysis	28	Uterus............	0

REMARKS.—The total number of deaths was 31 below the weekly winter average. Hooping-cough has greatly increased in mortality, while the deaths from scarlatina are much reduced.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 29·72
„ „ „ Thermometer[a] ...... 42·4
Self-registering do.[b] .... Max. 65° Min. 28°

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 1·48.—Sum of the daily observations taken at 9 o'clock.

NOTICES TO CORRESPONDENTS.

Dr. Mackenzie, Archangel.—We have hitherto delayed the publication of the valuable Russian Report on Cholera, as there was no prospect of our being able to publish it weekly in parts. It is our intention to publish it forthwith, as it is a document calculated to throw light upon the etiology, progress, and treatment of cholera in all countries.

Dr. Wardell.—The paper will be inserted in the number of the 23d, and a proof sent.

Mr. Nunneley.—We had already anticipated the statement in the letter, which was received too late for insertion in the present number.

Dr. Arnott.—The delay of one week was occasioned by the temporary withdrawal of the paper. The papers in the number of last week were previously fixed, and could not be postponed.

M.R.C.S. Lymington.—The rule is that the candidate must be unmarried; *not beyond* twenty-six years of age, nor under twenty-one. A candidate in his 26th year would not be ineligible. Information may be obtained at the Office, 13, St. James's Place.

Mr. J. Hodgson's case of Cholera, successfully treated, shall appear in the following number.

Dr. Owen Daly's suggestion is by no means new; although the fact is not commonly known. This action of Prussic acid was announced ten years since, by Mr. York, Dispenser at the Canterbury Hospital. His letter shall be published in conjunction with that of Dr. Daly.

The communications of Dr. A. Clark, Dr. Snow, and Dr, Dick, will be published next week.

RECEIVED.—Dr. R. Rowland.—Mr. J. D. Macdonald.—The Manchester Guardian.

THE GENERAL INDEX.

We have to announce to our Subscribers that a GENERAL INDEX to the *first* 40 *Volumes* of the LONDON MEDICAL GAZETTE will, it is calculated, form a large Volume of about 700 pages. The cost of the INDEX VOLUME, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. WILSON AND OGILVY, 57, Skinner Street, will eceive the Names of Subscribers.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

By Bransby B. Cooper, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture LI.

Genital Organs — Hydrocele — (continued).—*Operation of tapping—cases—necessary precautions—Injection of a hydrocele by the old method—by tincture of iodine—preparation of the patient—cases—mode of operation—precautions in inserting the canula—case—Manner in which the cure is effected—not by adhesion—The hydrocele may be divided into more than one sac—operation under such circumstances—case—Care necessary to avoid throwing the injection into the cellular tissue—result of this accident—how it must be remedied—Cases.*

Congenital hydrocele—*Difference between it and simple hydrocele—diagnosis—case—treatment—Encysted hydrocele—its peculiarity—cases—spermatozoa in the fluid of the cysts—Hydrocele of spermatic cord — diagnosis sometimes difficult—conditions of the swelling—cases — treatment — Encysted hydrocele of the spermatic cord—Treatment.*

Operation of tapping.—This can only be considered as a palliative means of treatment, for the fluid usually reaccumulates if it be merely drawn off without any stimulating application being made to induce an altered action in the secreting membrane. It does, however, sometimes happen that a permanent cure is established by tapping; and I am therefore in the habit, in simple cases of hydrocele, of always first trying the effect of this safe operation before having recourse to the more violent one. The instruments required are a trocar and canula, and the mode of using them is as follows: — The patient being placed before the operator in the standing posture, with his back resting against the wall, the scrotum is grasped with the left hand (the position of the testicle being previously ascertained): the fluid is then pressed forwards to render the tumor perfectly tense, and the trocar and canula, oiled beforehand, are quickly, and with a half turn of the hand, giving as it were a semi-rotatory thrust, plunged into the tumor, usually in the lower third of the swelling: the forefinger of the right hand should be kept upon the shaft of the instrument during the time of making the thrust, so as to regulate exactly the depth to which it may be allowed to penetrate. The trocar and canula having entered the tumor, the trocar is to be withdrawn, and the canula being pushed completely home, the water is allowed to flow off. The degree of obliquity at which the trocar is directed depends entirely upon the position of the testicle; it is therefore a matter of considerable importance to ascertain beforehand the exact situation of that organ, especially if the patient had ever before been the subject of this operation, as the former operation might have led to the adhesion of the testicle to the cicatrix of the old wound in the tunica vaginalis. If a surgeon were to take it for granted that in his second operation he would be safe in puncturing at the same point as before, he would incur the risk of wounding the testicle instead of penetrating the sac. In illustration of this Sir Astley Cooper relates the following case:—Sir W. ——, Bart. consulted an eminent surgeon in a case of hydrocele: he proceeded to draw off the water, but on withdrawing the trocar, which had entered the tumor with great difficulty, no fluid followed; violent orchitis supervened, and it was quite clear that the trocar had entered the body of the testicle. As soon as the inflammation of the testicle had subsided, the patient consulted Sir Astley Cooper for his hydrocele: he punctured the scrotum from behind, drew off the fluid, and the patient was immediately relieved.

In June 1841, Mr. Musgrove, of Finsbury Crescent, brought me a patient who was the subject of hydrocele, which, upon examination with a candle, I found to be unusual as to the situation of the fluid, the testicle being placed in front: although the patient had never before been submitted to operation, I passed in the trocar at the posterior part of the scrotum, and readily drew off the fluid.

Simple, however, as is the operation of tapping, it should not be had recourse to without some slight preparation of the patient; for it has not unfrequently happened that without this precaution violent constitutional disturbance has resulted.

I was consulted by a gentleman, aged 68, who was the subject of a large hydrocele, containing a pint of fluid: the tumor was transparent, in no degree painful, and the patient appeared to me to be in good health: twelve hours after I had performed the operation of simple tapping, he was, however, seized with shivering, and great pain in the scrotum; inflammation continued to increase, sloughing ensued, his pulse became low and quick, his tongue covered by a brown fur, and slight delirium supervened; I ordered him calomel, large doses of Dover's powder, ammonia and serpentary; I also made incisions into the scrotum, applied a poultice of stale beer grounds, and allowed the free use of brandy and water: this patient ultimately recovered, although his life had been in great danger. After his recovery he admitted to me that he was subject to hæmorrhoids, from which he was suffering greatly at the time he consulted me for the hydrocele: had I been aware of this fact before the operation, I should certainly have deferred its performance.

Sir Astley Cooper mentions the following case which came under his notice, and to which I find affixed in his note-book, "important":—Mr. Green, of Lewisham, in October 1798, drew off a quart of fluid from a hydrocele, for Mr. Thompson, aged 64; nothing untoward occurred at the time, but sloughing supervened, and on the sixth day the patient died. Upon the post-mortem examination nothing could be found to account for this termination as far as related to the hydrocele, but the liver was found much diseased: Sir Astley remarks, therefore, upon the necessity of due examination of the general constitutional condition of a patient before submitting him to the operation for hydrocele.

I have already spoken of the necessity of a strict investigation of the history of the affection in all cases of hydrocele; for although an abnormal secretion of serum may exist in the tunica vaginalis, it may be concomitant with some disease of the testicle, which may render the operation of tapping either useless or injurious. Sir Astley Cooper mentions the following very interesting case:—A gentleman consulted him with a swelling of the scrotum, and stated that he had been to a surgeon, who had passed a trocar into the tumor, but that no water followed. Sir Astley discovered that his patient had some suspicious eruptions about his person, and he admitted that he had been the subject of syphilis six months before. Sir Astley placed him under a course of mercury, and in a short time the swelling of the testicle, and the fluid within the tunica vaginalis, were both removed. A patient once consulted me with a pyramidal tumor of the scrotum, which had formed insidiously, and unattended by pain, and which, although opaque, from its distinct fluctuation I considered to be hydrocele, and passed a trocar into it: not more than a drachm of limpid fluid escaped, and having found my mistake, I at once applied a piece of plaster over the puncture: no ill effects resulted, and I subsequently removed the testicle, which proved to be affected by the sero-cystiform disease. I showed the patient to Sir Astley Cooper, who remarked, that from the size of the cyst, and universally fluctuating feel of the tumor, he was not surprised at my having mistaken the disease.

I have already said that tapping is not to be considered as a means for the radical cure of hydrocele, and I shall therefore now speak of the modes which are employed for the more certain cure of the disease, upon the reaccumulation of the fluid after the tapping has been performed.

Operation of injection.—For this mode of treatment medical science is indebted to Sir James Erle; it has superseded all the other modes of which I have already spoken for effecting a radical cure. Wine and water, solutions of sulph. zinc, and various other agents fitted to induce inflammation of the tunica vaginalis, have been employed; but of late years, Dr. Henry H. Goodear, of Calcutta, has recommended the following injection:—℞ Tinct. Iodinii Co. ʒij.; Aqua destil. ℥vj. M. Of this mixture two drachms are thrown into the tunic after the serum has been withdrawn, and left there to produce its effects. Dr. Goodear states, that out of two hundred and seventy-six cases in which he had operated, he only failed twice in permanently curing the disease.

The mode of performing the operation of injection only differs from the simple tapping in the operator being prepared with a syringe or an india rubber bottle, furnished with a stop-cock and nozzle; the point of the latter is to be inserted into the canula, and the fluid (whatever the injection may be) thrown into the tunica vaginalis. I ought, perhaps, to mention that the patient should be placed in the recumbent posture during this operation, for the acuteness of the pain may induce fainting. When port wine is employed as the injection, it is generally mixed with twice its bulk of water, or, should this be a repetition of a former operation, equal parts of wine and water may be used. When sulphate of zinc is preferred, the solution should be of the strength of a drachm of the salt to a pint of water; and when either wine and water or solution of sulphate of zinc are injected, a sufficient quantity should be thrown in to distend the tunica vaginalis to about two-thirds of the size to which it had been extended by the serum. The injecting fluid is to be retained within the tunic until the patient complains of pain passing along the cord and extending to the loins, when it is to be allowed to pass off through the canula. It generally requires for the fluid to remain in the tunic about five minutes before the patient complains of the degree of pain considered to indicate the action necessary for the cure of the disease. After the injection has been withdrawn, the treatment of the patient must be regulated by the degree of pain he experiences; if this be very great, he should be kept in the recumbent posture, and upon low diet; but if it be moderate, so that it may not be deemed to indicate quite sufficient irritation in the parts, he should take gentle exercise and generous diet to excite the requisite amount of inflammatory action. A successful result of the treatment is indicated by swelling of the scrotum, gradually increasing until it attains a size equal to that of the original disease, at which period the patient is generally much disappointed to find the inconvenience even greater than before the operation, not being aware that these symptoms are evidences of the effectual operation of the remedies. In about four days, the swelling begins to subside, the pain ceases, and although it may be some time before the part is restored to its natural state, the patient is perfectly convalescent. This operation is not, however, to be considered infallible, for I have myself known several instances of the disease returning after the employment of the injections of zinc and water, although they produced all the outward effects necessary to the cure. Neither is it an operation that can be considered wholly free from danger, as the following case will prove:—William Rownslow, aged 60, was tapped by Mr. Morgan, and about twelve ounces of serum evacuated; port wine and water was injected, and the patient insisted upon going home: the same night he was attacked by acute inflammation of the tunica vaginalis: he sent for a surgeon, who mistook it for a case of strangulated hernia, and sent him back to Guy's Hospital: the tunica vaginalis was laid open, and the proper remedies prescribed, but sloughing took place, a high degree of irritative fever ensued, and on the third day the patient died.

Sir Astley Cooper, in 1824, operated on the Spanish Ambassador for the radical cure of hydrocele, employing wine and water as the injection: in thirty hours after, the patient was seized with trismus: large doses of calomel and opium were administered under the advice of Dr. Baillie and Mr. Cline, and the patient ultimately recovered.

Dr. Farre has told me, that in Barbadoes it is not at all uncommon for tetanus to follow injection of a hydrocele, and so much is this result dreaded, that surgeons in that country rarely attempt the radical cure, but merely have recourse to the palliative remedy of tapping. In Sir Astley Cooper's notebook I find the following remarks from information obtained from the same authority. "Dr. Farre related to me a case which fell under his notice in Barbadoes, of peritoneal inflammation following injection of a hydrocele, and which destroyed the life of the patient." It has always occurred to me that this might have been a case of congenital hydrocele, in which, of course, the injection ought not to have been employed.

In July, 1830, I injected a hydrocele with the solution of zinc, for a gentleman at the Trafalgar Hotel, and all seemed to progress quite favourably for the first two days, when he was seized with a violent rigor, sickness, and great pain in the scrotum. Calomel and opium were ordered, and an effervescing draught, with an excess of ammonia. An opening was made into the tunica vaginalis, pus evacuated, and the patient recovered, although the irritative fever at one time had arisen to a dangerous height.

From the evidence of these effects resulting from the injection of wine and water or zinc, and from the account given by Dr. Goodear of the almost invariable success which has attended the employment of iodine, I have for several years adopted the plan of treatment proposed by that gentleman, and out of thirty-seven cases have had but one failure, which can indeed scarcely be considered in that light, as a large portion of the injecting fluid accidentally escaped on withdrawing the canula. In injecting this fluid I never use the india-rubber bottle, but have a small syringe constructed for the purpose.

One circumstance has struck me as very singular in the use of this injection; it is, that it frequently produces so little pain that I have, in some cases, considered failure as almost certain, and yet, without either swelling or pain, the cure has been completely effected. I subjoin one or two cases in illustration of this fact. The Rev. Mr. H., of Norfolk, had had hydrocele on both sides for six years; two years ago he had the fluid drawn from off both hydroceles, and had the right side injected with wine and water, but ineffectually: a year and a half after he had the same side injected with solution of zinc, and was cured. The left hydrocele then became troublesome, and he submitted to the injection of wine and water, which proved unsuccessful. We then had recourse to a second operation on the left side, when the surgeon employed the zinc, which had previously succeeded with the right side, but on this trial it also failed. He consulted me in February, 1839, when I injected the tincture of iodine in the proportions already described, and the disease was perfectly cured with little apparent inflammation or pain.

In July, 1840, I injected a hydrocele for a patient of Mr. M'Cann, of Parliament Street, with the iodine injection, in this case also with complete success, although the patient suffered no pain either upon the injection of the fluid or subsequently. An Irish Peer came to my house and requested me to draw off the water from his hydrocele. I proposed to attempt the radical cure, to which he replied, "your uncle and three other surgeons have already injected the hydrocele ineffectually, and therefore I do not wish to submit to any further attempt." I stated to him the effect of the new injection, and then with his consent threw in half a drachm of compound tincture of iodine with a drachm and a half of water. The injection produced no pain. His lordship called upon me a week after, and laughed at my remedy, but from that moment, although the circumstance occurred four years ago, he has not had a return of the disease.

The mode in which the cure is effected in all cases of injection, is, I believe, by altering the action of the capillaries of the tunica vaginalis, and not by the effusion of plastic matter, producing the adhesion of the sides of the tunic; for in many preparations of the tunica vaginalis, after successful injection for hydrocele, no such adhesions are found. It sometimes happens that partial adhesions are formed, dividing the tunic into two or more sacs, and in such cases it has occurred that these sacs have secreted fluid, and the hydrocele has put on a complex form, being divided in distinct chambers, as it were, each of which must be opened for the evacuation of its fluid. In tapping a patient for hydrocele, at Guy's Hospital, I found the tumor only partly diminished after the fluid had escaped, and that a transparent fluctuating swelling still remained; this I then pressed against the canula, which I had retained in the first sac, and re-introducing the trocar, punctured it, and let out the fluid. I did not inject this case, in consequence of the peculiarity just named, and as I never saw the patient after, cannot tell whether the disease returned.

The only precaution necessary in the performance of the operation of injection is to push the canula quite home into the cavity of the tunica vaginalis, for if it be only partly inserted, and not beyond the slit at the extremity of the canula, when you inject the fluid you will throw it into the cellular membrane of the scrotum, and not into the tunica vaginalis,—an accident which will probably produce sloughing of the whole scrotum. This accident I have known to occur several times with young operators, who are liable rather to push the trocar gently into the scrotum, than to jerk it in with the quick semi-rotatory motion necessary to its perfect introduction, guarded, as I have already described, as to the extent of its intrusion, by the fore-finger placed on the canula, to limit the length intended to be introduced. When the gentle push onwards of the instrument is the force employed, the shoulder of the canula is very likely to carry the tunica vaginalis before it, without entering the cavity, so that the injection is only thrown into the subcutaneous cellular tissues, the probable result of which occurrence is shown in the following case, described in Sir Astley Cooper's notes. "I injected a hydrocele for a man between fifty and sixty years of age, and the disease returned: about two years after, this patient was readmitted into Guy's, under the care of Mr. Foster, who gave permission to one of his dressers to inject it; the canula was not properly introduced into the tunica vaginalis, so that the fluid was thrown into the cellular membrane of the scrotum: violent inflammation followed, mortification ensued, and the patient died." I have three times known this accident to occur.

As soon as you find, upon turning the stopcock, that the injected fluid does not return through the canula, you may be certain either that the injection has been thrown into the cellular membrane, or that the canula has slipped out of the tunica vaginalis: some means must therefore be adopted for the evacuation of the fluid, and this can only be effected by incision. Lay open the tunica vaginalis in the case of the canula having accidentally slipped out, and make several incisions into the scrotum if the fluid be thrown into the cellular membrane, and in either case, if these plans be adopted, the dangerous effects may generally be prevented.

I may give you another useful hint, gentlemen: never to even tap a hydrocele, much less inject it, while there is any sign of inflammation, for even the puncture may be productive of harm.

A gentleman was the subject of hydrocele, and had frequently had the fluid drawn off: upon one occasion, in attempting to reach a book, he fell, and struck the scrotum against a chair; finding the part swollen and painful, he went to a surgeon, who immediately tapped him. Very little water passed, and what came was mixed with blood; violent inflammation followed, and it became necessary to lay open the tunica vaginalis by incision. This patient recovered, but not without having incurred considerable dangers: the proper treatment here would have been to have allayed the inflammatory action before puncture was made into the tunic.

Congenital Hydrocele.—The only difference between this and the simple hydrocele of the tunica vaginalis, consists in the circumstance of a communication existing between the tunic and the general cavity of the peritoneum. The physical signs of this kind of hydrocele are so similar to those of the simpler description, that its appearance alone by no means furnishes any diagnostic mark of the nature of the disease; but if from the youth of the patient, or any other cause, there be reason to suspect this congenital condition, you may test it by grasping the tumor firmly, when the fluid may be pressed into the cavity of the peritoneum, so that the scrotal tumor disappears, but returns soon after the pressure is removed. A young man of the name of Probert some years ago consulted me for a hydrocele. Upon examination I found the tumor perfectly transparent, and recommended him to submit immediately to the palliative remedy; when, upon grasping the tumor firmly, to render it sufficiently tense for the easy introduction of the trocar, it vanished under my hand, and the nature of the case was at once rendered obvious. I immediately desisted from any other steps in the operation, ordered a truss to be worn, and afterwards succeeded in obliterating the connection between the two cavities,—thus effecting a radical cure. Acupuncturation may be safely adopted in cases of congenital hydrocele that are not cured by the pressure of a truss. The mode of proceeding is to insinuate the needle into the tunica vaginalis by several punctures, which permit of the exudation of the fluid into the cellular membrane, where it becomes absorbed. Dr. Lewis, of Finsbury Square, was, I believe, the first who recommended this mode of operation for the cure of hydrocele generally, but I acknowledge that I have only found it useful in cases of hydrocele in young children, and on one occasion in a case of congenital hydrocele in an adult.

Encysted Hydrocele is so termed when the fluid, instead of being contained within the tunica vaginalis, is secreted in an adventitious sac; these cysts are well described by Mr. Curling as being analogous to the aqueous encysted tumors which are developed in the kidney and liver, and I think he might have added, other organs covered by a serous membrane, for I have never found analogous cysts excepting under these splanchnic serous coverings. In the testicle they are usually found between the epididymis and its serous covering, but are sometimes placed between the tunica vaginalis and the tunica albuginea of the body of the testicle: in either case upon examination the tumors give the idea that they are completely adventitious, and that they are superadded to the natural structures of the part, while common hydrocele seems to implicate all the natural structures, and is, indeed, merely an inordinate accumulation of a natural secretion.

On the 4th of January, 1845, Mr. Tilsit, of Blackfriars Road, brought me a patient who had a small tumor in the scrotum, which, upon examination, felt precisely like a supernumerary testicle; and, what is singular, when pressed, gave the same sensation to the patient. Upon examination, the tumor, in this case, was found to be quite transparent, which proved it to be one of these aqueous encysted tumors. I punctured the tumor with a needle, ordered a lotion of hydrochlorate ammonia and spirit of wine and water, and a suspensory bandage: the patient perfectly recovered.

December 1st, 1837, a gentleman, aged 54, residing near Bristol, consulted me for disease of the left testicle, but stated, at the same time, that he had suffered very little pain or inconvenience. Upon examination, I found a small swelling, about the size of a walnut, situated at the upper part of the left testicle, immediately over the head of the epididymis, occupying the space between it and the spermatic chord. The tumor was fluctuating, and I at first considered it to originate from a varicose state of the veins; but, as I could not empty the swelling by pressure, I examined it as to its transparency, and found it perfectly translucent. I punctured it with a needle, squeezed out the fluid into the surrounding cellular membrane, ordered evaporating lotions and purgative medicines, and directed the patient to wear suspensory bandages lined with oil-silk. This gentleman wrote to me two months afterwards, and described himself as having perfectly recovered.

A patient was admitted under my care, at Guy's Hospital, who had a swelling upon the body of the testicle. The tumor was transparent: I punctured it with a lancet, and collected the evacuated fluid, which I found, upon examination, was incoagulable by heat beyond slight turbidity: in fact, it had all the appearance of water; but under the microscope—to which test I was induced to subject it, from having read a paper by the late Mr. Liston,—I found it contained spermatozoa, which proved the disease to be encysted hydrocele. The fluid re-collected before the patient left the hospital: I passed a seton of a single silk through the sac, and the disease was perfectly cured.

Professor Owen, upon being told that spermatozoa had been found in the fluid of these cysts, and being anxious to investigate the matter, as he had no opportunity of obtaining a recent case, examined the fluid of a preparation which had been put up some years before in the College of Surgeons, and, by the aid of the microscope, discovered a considerable quantity of dead animalculæ. Since Mr. Liston made this discovery, some surgeons have said that they have also found these entozoa in the fluid of common hydrocele. I have frequently sought for them in this fluid, but have never succeeded in finding them; and Mr. John Dalrymple, who has written upon the subject, remarks, that he believes that, when they are found under these circumstances, the surgeon had probably punctured either the vas deferens or testicle in evacuating the hydrocele.

Hydrocele of the spermatic chord is rather an unusual affection, and must result from a congenital tendency to its formation, in consequence of the tunica vaginalis of the spermatic chord remaining open, either between the two abdominal rings or between the external abdominal ring and the testicle, leaving a space for the collection of serum. The disease is precisely similar to hydrocele of the testicle in every pathological condition, but the diagnosis is frequently much more difficult.

When the collection of fluid takes place in the inguinal canal, the resulting swelling has all the appearances of a bubonocele, and it is often very difficult to distinguish the one from the other; for, although it has been said that in hernia the impulse in coughing will form a sufficient distinguishing mark, I think you will find, gentlemen, that the hydrocele also receives such an impulse from the influence of the abdominal muscles in the act of coughing, that you will be scarcely able to rely on that indication. Its fluctuating feel, the absence of any derangement in the function of the bowels, and of all symptoms consequent upon such derangement, must form your principal guide; but if the tumor be prominent enough to enable you to discover its transparency, the mystery is in a very great measure solved. I remember a friend of mine consulting Sir Astley Cooper upon the subject of a swelling in the left inguinal canal. He had shewn it to Mr. Abernethy, and other surgeons, who had pronounced it to be an irreducible hernia. Sir Astley, after very close examination, said he was certain it was only a hydrocele, which he laid open, let out the fluid, and the disease was cured.

In Mr. Tyrrell's edition of Sir Astley Cooper's Surgical Lectures, the following case is published.

"Master ——, of Bedford, had a hydrocele of the chord, of six years' duration: it appeared mostly above, but partly below, the external abdominal ring: the tumor was very transparent. Mr. Pulling tapped the swelling, but the disease returned: he afterwards twice injected it with wine and water, but ineffectually. Sir Astley cured it by making an incision into the tunica vaginalis, and introducing flour, but two abscesses formed during the progress of its cure."

Mr. Curling seems to have adopted Mr. Potts' opinion, that this disease is an œdematous condition of the cellular membrane of the chord—an anasarcous effusion; but, from two or three cases I have seen, I am inclined to believe that the collection of fluid is within the serous membrane itself, although there can be no doubt that an anasarcous condition of the chord does occur, as in other parts of the body, and which may be cured by the same local and constistutional means employed for anasarca generally.

I remember some years ago seeing the beadle of St. Martin's parish, with Mr. Streeter, then of Drury Lane: this person was the subject of a swelling of the scrotum and spermatic chord, which were both so fluctuating that I was led to puncture the scrotum with a trocar: only a few drops of fluid followed, and the œdematous condition was at once proved. Several small punctures were made, constitutional remedies prescribed, and the patient was relieved; but I believe subsequently died, under the care of Mr. Streeter, of diseased kidneys.

I should consider the best treatment for true hydrocele of the chord, whether seated in the inguinal canal or below the external ring, to open the tunic, evacuate the fluid, and apply a truss. I should hesitate before I employed an injection, from the dread of the ill effects which might result from the close proximity of the peritoneum; but this mode of practice is sometimes recommended.

Encysted hydrocele of the spermatic chord I should consider as similar in every respect to encysted hydrocele of the testicle, excepting in situation; that they are always in both cases exterior to the cavity of the tunica vaginalis, and contain a limpid, uncoagulable fluid: whether or not the fluid of the encysted hydrocele of the chord contains spermatozoa, I believe has not been ascertained. The separate sacs which are sometimes found in the tunica vaginalis of the chord are not, in my opinion, to be considered as encysted hydroceles, but as true hydrocele of the chord in the complex form, such as has already been described sometimes to occur in the hydrocele of the testicle.

The means to be adopted for the obliteration of these cysts, if they do not spontaneously disappear, are either acupuncturation or seton, the former of which should always be first attempted before having recourse to the more dangerous mode of the introduction of a silk into the cyst.

Hæmatocele is a collection of blood instead of serum in the tunica vaginalis; and the diagnostic marks between hæmatocele and hydrocele are, that, in hæmatocele, the effusion of blood results at once from the lesion of a blood-vessel, and therefore rapidly forms upon the application of the exciting cause; while the fluid of a hydrocele results from an inflammatory action, and only gradually accumulates. In hæmatocele the tumor is always opaque, and much heavier than in hydrocele; consequently greater inconvenience is experienced. If called to a recent case of hæmatocele, you will generally find the scrotum more or less ecchymosed and distended by a fluctuating tumor, and probably the history of the case will prove that a blow or some other external force has been the cause of these appearances, and is sufficient to constitute the diagnosis of the malady.

Hæmatocele not unfrequently results from the operation of tapping a hydrocele, in consequence of the trocar wounding some abnormally distended vessel, either of the skin or tunica vaginalis. In such a case, a few hours after the serum has been drawn off, the swelling is as large as ever, from the accumulation of blood. The largest hæmatocele I ever saw was produced in this manner.

A gentleman who had long been the subject of hydrocele, and who was unwilling to submit to the radical cure, was in the habit of having the operation of tapping performed as occasion required. Becoming tired, however, of the expense this involved, he contrived an apparatus for the purpose of operating on himself, and which was so constructed as to preclude the necessity for forcing the trocar into the tumor by hand; and for this purpose he removed the barrel from a pistol, and, after sawing off the stock in front of the cock, attached a short canula and trocar to the hammer, so that, by pulling the trigger, the trocar was driven into the scrotum. His first operation was so successful that he quite prided himself on his ingenuity. His triumph was, however, short-lived; for, on a fresh accumulation of the serum, in his very next attempt, directly after he had drawn off the water, he was surprised to find the tumor beginning to swell again, and in the course of two hours it was as large as ever. He applied cold applications, and remained in bed, hoping that what he considered as mere inflammation would soon subside. Finding, however, that this did not take place, in the course of a few days he sent for a surgeon, who told him that it was fungoid disease, and that the testicle must be removed. I was then called in consultation, and recommended that an incision should be made into the tunica vaginalis, when a large clot of blood, with some serum, was removed, and the patient recovered, not only of the hæmatocele, but also of the hydrocele which formed the original disease.

The only treatment, indeed, in hæmatocele is that mentioned in this instance, viz. the laying open the tunic and turning out the clot. Cases are recorded, although I have never had an opportunity of seeing one, in which, after laying open the tunica vaginalis, and removing the coagulum, fresh hæmorrhage has immediately occurred, leading to the necessity for applying a ligature round the vessel; and, indeed, it has been stated, that when this tendency to hæmorrhage has existed, and no bleeding vessels could be discovered, it has been necessary to extirpate the testicle.

I admitted a patient about a month ago into Cornelius ward, Guy's Hospital, who a fortnight previously had received a blow on the scrotum. Upon his admission, the scrotum was on one side three times its natural size, and, in form, presented the appearance of a hydrocele, but was perfectly opaque. Upon manipulation, the tumor partly fluctuated, but a large solid mass was discoverable. As the patient mentioned that the tumor was found immediately after the blow, I considered it to be hæmatocele, and proceeded to lay open the tunic. A quantity of serum escaped, and, by introducing the fingers, I turned out a mass of nearly colourless fibrin, the colouring matter of the blood being absorbed.

These cases are good examples of the numerous instances of hæmatocele which have occurred in my practice. I have met, however, with an accumulation of fluid in the tunica vaginalis which could scarcely be described either as hydrocele or hæmatocele, from the character of the sanious fluid which was contained in the sac, and which I believe to depend upon the hæmorrhagic diathesis of the patient, and not upon the nature of the accident. I saw a gentleman, who, in riding in the Park, had received a blow on the scrotum: it produced but little pain at the time, although considerable swelling immediately took place. He consulted me four days after the accident. I examined the state of the scrotum, which presented most of the signs of a hydrocele, being fluctuating, but quite opaque; and, as the swelling had occurred so rapidly after external injury, I had no doubt of the disease being hæmatocele, and proposed therefore to immediately lay open the tunic, upon doing which I evacuated eight or ten ounces of sanious fluid, without any coagulum in it. The opening I made was small, and soon healed, but in a fortnight after the patient returned to me with a fresh accumulation of fluid, which I drew off by the common operation of tapping, and found it of the same sanious character as in the former operation. This led me to suspect that the disease depended upon constitutional deterioration; and, upon questioning my patient, I found that he displayed a hæmorrhagic tendency, as he informed me that the slightest blow always produced an ecchymosis on the injured part. I ordered him mineral acids and bark, animal food, sea air, &c., and the disease never reappeared. In fact, the nature of the fluid found in hydrocele, or even hæmatocele, differs much, according to the constitution of the patient, being sometimes as highly coagulable as healthy serum, sometimes oily, from the presence of fat, and sometimes containing cholesterine, and in other cases being mixed with blood: in short, we may sum up, gentlemen, by saying that the capillaries of the tunica vaginalis are liable to various deteriorations, and that the effusions vary correspondingly.

Original Communications.

ANTICIPATION OF THE
VIEWS OF REINHARDT
ON THE
EXUDATION CORPUSCLE,
TOGETHER WITH SOME PRELIMINARY OBSERVATIONS ON
EXUDATION AND THE ELEMENTARY FORMS OF MORBID PRODUCTS.

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[Continued from last volume, p. 627.]

Part First—*continued.*

In our former communication we expressed our belief that the cellular forms peculiar to serous exudation held a definite morphological relation to each other; and that, viewed in combination, they might be considered typical of one great mode of pathological development.[*] We further stated, that from the details previously enumerated, three questions naturally suggested themselves for consideration:—the mode of origin of the corpuscles, their relations to each other, and the nature of the causes immediately engaged in the production of the cellular membrane formerly described. The solution of these questions possesses a more than individual interest: correctly expressed, it will facilitate our comprehension of the origin of morbid products, and render more precise our notions of the deranged organic forces through which these products are developed. It is desirable, therefore, to consider the subject in all its more important relations and details.

The surface from which serous exudation has escaped exhibits the following general conditions:—preternatural thickness, softness or villosity, a rosy colour of various degrees of intensity, and hyperæmia of the terminal arteries and vasa intermedia (capillaries). The number and variety of the cellular forms contained in serous exudation is almost directly proportionate to the intensity and duration of these conditions; but the converse of this, though generally, I have not found to be universally true.

The first variety of corpuscle occurring in serous exudation we have[*] already considered to be representative merely of the healthy cell peculiar to the locality in which it is found, slightly modified by changes in the physical and vital conditions of its existence. The other forms we considered also to have a similar origin, and to differ from each other only in the comparative distance to which they were removed from the healthy cell. To establish the truth of this view, however, it will be necessary, in the *first place*, to determine the chemical and histological relations of the healthy cells peculiar to a given part; and in the *second*, to contrast these with the characters predicable of those varieties of the cellular constituents of serous exudation now under review.

As the *visible*[†] histological elements composing the cells found in the choroid plexus, the interior of glands, and on the surface of serous and mucous membranes, are very much alike; as the differences in the *physical* characters of these cells are dependent merely on the varying proportion in which their elements are associated, on position, and other mechanical conditions; it is almost matter of indifference what particular cellular form we select for the illustration of their structural relations. This observation is true in point of fact as well as theory; and it may on that account be advantageous to preface our description of a particular cellular form by a few observations on the anatomy of cells in general. This procedure will be advantageous in another respect: it will be the means of developing the writer's interpretation of some of the phenomena of cell-life, and of showing the relation which that interpretation is supposed to hold to the common origin of the elements of morbid products.

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[*] In other words, the development of elementary forms of morbid products from previously existing healthy organisms.

[*] Vide last vol. of Gazette, page 417.

[†] I have purposely given the word *visible* in italics; because, though cells of the same apparent structure manifest different attributes, it is difficult for the mind, with that bias which an increased knowledge of the causes, or rather conditions of things, has given it, to admit difference of function without corresponding difference of structure or composition.

The anatomical elements of the healthy cell are—

A cell-wall.
Cell contents.
A nucleus.
Molecules and granules.

The cell-wall and nucleus we shall, in the first place, consider separately, and afterwards in combination with the other elements.

The cell-wall.—In the early stages of cell-life the cell-wall is found to be spherical, structureless, and transparent. It is supposed to become afterwards opaque; but this subsequent opacity of the cell-wall is apparent only, not real, and arises either from the development and adhesion to it of numerous molecules and granules, from its becoming incorporated with the cell-contents, or from the development in its interior of solid fat. The cell-wall may become thickened, and variously modified in consistence and composition, but rarely, unless in the act of disintegration, do new bodies become developed *in* its substance. In after life, the shape of the cell-wall becomes modified, partly from physical contingencies, and partly from the *organic force* which determines that figure of cell best adapted to the fulfilment of its particular end in the economy of life. The substance of the cell-wall is highly tenacious and, to a certain extent, elastic. Our knowledge of its chemical relations is still undecided: without descending to the minutiæ of some chemical hypothesis, we may say generally, that in the majority of instances it exhibits an albuminous reaction; that sometimes its composition appears to be of a fibrinous character; and that it has been found in some instances fatty (?) or, at least, incorporated with fat. In the early life of the cell, the cell-wall is thin and delicate: in the subsequent phases of its existence it becomes thicker, but not in itself opaque. In, perhaps, the greater number of instances the cell-wall remains distinct from the cell-contents; but in cases where the latter have become more or less solid, the cell-wall adheres to, and not unfrequently becomes inseparably connected with, them.* In the later stages of cell-life, and when the cell has retained its sphericity, its disintegration and decay are indicated by loss of plasticity and a tendency to break up by molecular degeneration: at the same period of existence, but when the cell has become previously flattened, it will be found that the cell-contents have disappeared, and that the cell-wall is peculiarly thin and brittle, and becomes in time broken up into irregular fragments.

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* This fact is happily illustrated by the large spherical cells, which form an integral part of, or at least accompany tubercular depositions into, the bronchial glands, spleen, and kidney. The cells here alluded to are sometimes met with (along with other elements) in the white friable tubercular depositions themselves, but more frequently in the apparently unaltered parenchyma by which these depositions are immediately surrounded. The general outline of these cells is spheroidal; they vary in size from four to seven times the diameter of the human blood disc; are studded with fine molecules and granules; and exhibit in their interior from three to six nuclei, the majority of which are eccentric. These cells are triflingly, if at all, affected by innocuous fluids of high or low specific gravity, appear to be of a gelatinous consistence, and are elastic. The nuclei are spherical, finely granular, and vary in size from one-fifth to one-seventh the diameter of the parent cell: they appear, moreover, to be of less consistence, and to approach more nearly than the investing cell-wall the characters of a true vesicle. On a superficial examination, the number of circular markings in the interior of the parent cell appears to indicate the number of the nuclei present; but this is not always the case, for a more careful examination will show that whilst some of these markings *do* indicate the presence of nuclei, others represent merely the surface boundaries of cup-shaped cavities imbedded in the substance of the cell. Adaptation of the object glass to the different focal distances, together with the employment of condensed or oblique light, will show that the bases and sides of these cavities are as smooth and regular as the outer surface of the cell-wall; whilst their form, size, position, and the presence of free nuclei in the field, irresistibly lead us to infer that they are produced by the extrusion of nuclei previously existing in these situations. The effect of acetic acid on cellular structures is well known: whilst it renders the cell-wall and its contents pale and almost invisible, it leaves the nucleus comparatively unaffected. Now, the conduct of the cells above referred to is peculiar, and sufficient to prove that though the circular markings in the interior of the cell occasionally, they do not always, indicate the presence of nuclei. For, in a given cell, with—say, for example—six circular markings, four of these disappear under the action of the acid, and the two that remain occupy a *central position* in relation to the parent cell. This relation, as far as I have observed, invariably holds true; the central nuclei are the last to disappear, and these only where the parent cell has become broken up and disintegrated. Disintegration occurs not unfrequently, and when the irregular fragments, of more or less perfect spheres, are abundantly present in the field of the microscope—some with nuclei, others with only molecules and granules attached. Lastly, another observation may be made in reference to this subject, which, though not directly pertaining to the object of our note, bears so impor-

The nucleus.—The position of the nucleus is still a matter of uncertainty and dispute. The difference of opinion among anatomists on this subject, however, is less the result of fallacy in observation than of the foundation of their views on the almost exclusive examination of the nuclei of fully developed cells. For supposing, what is extremely probable, that the nucleus originally occupies a determinate and invariable position in the interior of the young cell, it is evident that that position must be variously modified by the different changes to which cells are subject in consequence of variety in function and conditions of existence. That the nucleus does, during the period of its progressive existence, undergo changes of position, form, and composition, there cannot be a doubt; and when we recollect that the manifestation of the different attributes of cells is *mainly*, if not wholly, owing to the properties or powers developed by the nucleus, and not to any peculiar agency of the cell-wall or its contents, it must be admitted that the occurrence of such changes is only what our knowledge of the correlation of organic development with organic function would lead us to expect.

Schwann conceived that, as a general rule, the nucleus is attached to the inner surface of the cell-wall, but never invested internally by a distinct membranous layer separating it from the cell-contents. Schleiden, on the other hand, describes the nucleus of the *vegetable* cell as invariably situated in the substance of the cell-wall, the membrane forming which splits at the edge of the nucleus to enclose it. Henlé in most cases corroborates the opinion of Schwann; but in pigment cells, and some others, he considers the position of the nucleus to be *external* to the cell-wall. In the cylindrical epithelial cells, whether of the pulmonary or enteric tract of mucous membrane, Müller considers the position of the nucleus to be centric. Older writers describe the nucleus of many cells as occurring free and unattached in the midst of the cell-contents; and the presence of a nucleus in the human blood disc, with similar structural relations, is still maintained by several anatomists.[*] In the fully-developed cell, what Schleiden stated to be *universally* true of the position of the nucleus of the vegetable cell may be predicated *generally* of the nuclei of the cells of animal tissues: in cells of recent growth, however, it is otherwise, and the nucleus simply lies in contact with the inner surface of the cell-wall. At this period of its growth, the contents of the cell are, in general, highly fluid; and there is no membranous investment of the internal surface of the nucleus, the extrusion of which, under these circumstances, would be followed by escape of the cell-contents, and collapse of the cell-wall. We have seen, however, that in advanced stages of cell-life, extrusion of the nucleus without escape of the cell-contents, or collapse of the cell-wall, is a phenomenon of frequent occurrence; and that, after its extrusion, the position originally occupied by the nucleus is often

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tant a relation to the *questio vexata* of the origin of morbid products, as to deserve at least a passing notice in this place. It is this:—that of the two kinds of small corpuscular elements met with in tubercular depositions into the spleen, one of these corresponds exactly with the nuclei exhibited by the larger cells present in these depositions.

[*] The human blood disc essentially consists of a thick, structureless, elastic vesicle, containing coloured contents. The shape of the investing vesicle is biconcave, and to this shape the coloured contents accurately correspond. This may be readily proved by viewing the corpuscle in profile. The coloured contents form the only analogue of a nucleus which the blood disc exhibits: these may or may not be possessed of a proper envelope, but in either case the philosophic anatomist will never attribute to them the qualities of a nucleus. The central shading of the blood disc is, it is well known, but the optical expression of its configuration; and the other appearances considered presumptive of the presence of a nucleus are explicable on similar grounds. Under certain undetermined conditions, the blood disc occasionally exhibits in the centre of the coloured contents what appears to be, on a superficial examination, a minute vesicular nucleus. This arises, however, from deficiency of the coloured contents at the centre permitting the opposite walls of the homogeneous investing vesicle of the blood disc to come at that point in contact.

indicated by the presence of a cup-shaped cavity or depression on the surface of the cell. From this it is evident, that between the early and advanced phases of cell-life certain changes occur, in virtue of which the nucleus may become extruded without such a rupture of the cell-wall as would permit the escape of the cell contents. This structural relation of the nucleus appears to be brought about by changes occurring simultaneously in the nucleus itself, at the inner or free surface of the nucleus, and in the cell-contents generally. As already stated, the contents of the young cell, and of its nucleus (when vesicular) are fluid; but as the age of the cell increases, that fluid becomes viscid, and in progress of time acquires an almost gelatinous consistence. This change commences primarily in the fluid contents of the nucleus, which ultimately attain a much firmer consistence than those of the parent cell. At this time, also, the nucleus becomes somewhat shrunken in size, loses its regular sphericity, and attaches itself more firmly to the inner surface of the cell-wall. Whilst these changes are taking place in the cell-contents and in the nucleus, another and more remarkable change occurs around the free surface of the latter where it is in contact with the former. At this point, a thin film of the cell-contents becomes gradually solidified, attains a consistence equal to that of the cell-wall, has numerous minute molecules developed in its substance,[*] and either adheres to, or very closely invests, the internal surface of the nucleus. If our observations of these changes be correct—and they have been patiently and carefully conducted—it follows that there is not, as Schleiden supposed, an actual splitting of the cell-wall to enclose the nucleus; but there, nevertheless, is *a sort of membranous investment* for that body formed, in an advanced stage of cell-life, by the direct solidification of the cell-contents; and that this membranous investment, having covered the inner or free surface of the nucleus, loses itself in the cell-wall at each extremity of that body. When these changes are fairly established, the nucleus presents all the appearances of being situated in the substance of the cell-wall; and the interpretation put upon them by Schleiden is plausible, if not correct. It is only by examining closely the structural relations of the nucleus in the young cell—at which period of cell-life there is not the slightest appearance of an internal investment—and by tracing in succession the modifications to which these relations are subject during the progressive development of the parent cell, that the fallacy of Schleiden's view can be detected and exposed. When extrusion of the nucleus occurs, its connection with the internal investment just described becomes previously loosened, the molecules imbedded in the substance of which disappear—probably by solution—and the portion of cell-wall in front of the nucleus, and to which it is intimately attached, is either absorbed or possibly carried away in front of the nucleus, but so closely incorporated with it as to be imperceptible. In rare cases, shreds of membrane are found adherent to the nucleus: in these, however, there has been disintegration of the parent cell, and it is only under this condition that such shreds are seen.

[To be continued.]

ON

NARCOTISM BY THE INHALATION OF VAPOURS.

By John Snow, M.D.
Vice-President of the Westminster Medical Society.

[Continued from page 235.]

Part X.

1. *Ether and Chloroform in operations on the teeth;* 2. *on the eye;* 3. *on the anus;* 4. *on the back.* 5. *Inhalation to facilitate the reduction of hernia;* 6. *of dislocations;* 7. *to aid diagnosis;* 8. *to save the moral feelings of the patient.* 9. *Occasional sequelæ of inhalation—sickness;* 10. *its treatment.* 11. *Headache.* 12. *Hysteria.*

1. Chloroform is, I believe, not very generally employed in tooth-drawing in this metropolis. This is partly

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[*] In the circumstance of having molecules developed in its substance does this membraniform solidification differ from the regular cell-wall.

owing to the circumstance, that the pain occasioned by the operation, though severe, is usually but momentary; but another reason appears to be, that the majority of dentists are not sufficiently acquainted with the application of the medicine to be satisfied that they can use it with perfect safety, and it is not always convenient to the patient to have another medical man present. It is only in the cases of children and very nervous persons, who have not resolution to keep the mouth voluntarily open for the operation, that narcotism facilitates the work of the dentist; in other cases it adds to his trouble, and occupies more of his time. The introduction of ether and chloroform has been of service to the dental profession, having increased the practice of many of its members, by relieving the springs of industry from the incubus of the dread of pain; for a number of the operations under these vapours would not have been performed except for their use. I allude to many of the cases in which the mouth is "cleared," as the term is, of a number of decayed teeth, and stumps of teeth, to make room for a set of artificial ones—a process which is now generally performed at one or two sittings, without any pain, and which cannot fail to be, ultimately, of great benefit to the patients.

It is desirable not to carry the narcotism further than the third degree for the extraction of teeth, and in this stage there is generally some rigidity of the muscles of the jaw, but this can nearly always be overcome by pressing the chin down. It has been recommended that a wedge should be placed in the mouth before the inhalation, but I have never seen it necessary to have recourse to this plan, as I have always been able, with the assistance of the operator, to get the patient's mouth open. The few instances in which the mouth could not be at once opened were cases in which voluntary power was exerted under a dreaming condition of the mind, and in these cases the exhibition of a little more of the vapour enabled the desired object to be effected. There was one instance in which the addition to the dose of vapour was prevented by hysterical symptoms, till the lady recovered her consciousness, and then she had sufficient courage, and preferred to have her tooth removed without the repetition of the inhalation, which there is no doubt would have been effectual, as in every other case that I have seen. As it was, the pain was probably diminished. It has always appeared to me that there was a diminution of muscular power under the effects of chloroform and ether, in every variety of their operation; the voluntary efforts under excitement are much less powerful than those of an exasperated individual in an unnarcotised state, and the involuntary rigidity in the third degree is still more easily overcome. As there is usually less rigidity from the use of ether than chloroform, the former would be preferable in tooth-drawing, were it not for the strong odour that it leaves in the breath for the rest of the day. When teeth require to be removed from both jaws, those in the lower one, especially if they be molars, should be first extracted; otherwise, as the patient is unable to wash out his mouth, the blood will render them obscure. To clear the mouth of blood, whilst operating on the teeth of the lower jaw, it is sometimes desirable to use a sponge squeezed out of warm water. If the sensibility is found to be returning before all the teeth are extracted, the inhalation must be resumed for a short time before proceeding further. There is sickness after the use of chloroform in some instances of dental as of other operations, and it is here felt to be more annoying than after a great operation where the patient is necessarily an invalid. I shall have to speak of the treatment of sickness further on.

I am not an advocate for the use of chloroform in every instance of tooth-drawing, but I do not see how any rules can be laid down respecting its employment, as a good deal must depend on the wishes of the patient as well as on the presumed severity of the operation. One point, however, should be imperative, viz. that chloroform should not be given except by medical men who have made themselves well acquainted with its effects and mode of application. I have a strong feeling that severe pain ought not to be inflicted on children, since the means of preventing it have been discovered, and act so favourably on them; and therefore, when a tooth is to be removed that is firmly fixed, I think that a child should be made insensible whenever there is the knowledge requisite to effect this with perfect safety.

2. In most operations on the eye, narcotism is of essential service. In the operation for strabismus, the amount of pain to be prevented is considerable; and as the patients are usually children, who would offer all the resistance in their power, the proceedings of the surgeon are very much facilitated, as Prof. Miller, of Edinburgh, has recently remarked.* Chloroform or ether may be given with advantage to children, in operations on the eye unattended with pain, merely for the purpose of keeping the patient and the eye motionless. I have given the vapour of one or other of these medicines several times for Mr. Cæsar Hawkins and Mr. George Pollock, whilst operating on congenital cataract by the method of drilling. Two or or three of the latter gentleman's patients were only a few weeks old. The operation was facilitated in all the cases. In the excision of cataract, it is not advisable to administer ether or chloroform, for if vomiting should be induced it would be likely to cause serious mischief; and although vomiting is not a frequent result of inhalation, when precautions are taken to prevent it, yet it is impossible, I believe, to predict with certainty in any case that it will not occur.

3. Operations on the anus are frequently required, and they are of a very painful nature, on account of the great sensibility of the part. It was the practice of most surgeons before the introduction of inhalation, to have the patient standing on the floor, in a stooping posture, and leaning over a table or bed; but this attitude could scarcely be maintained in a state of insensibility, and therefore the practice now is to let the patient lie on his side, with the knees drawn up towards the abdomen; or when that is more convenient to the surgeon, the patient can lie on his back, as for lithotomy. The chief operations on the anus are that for fistula, the excision of hæmorrhoids, and the cutting away of loose folds of integument from the verge of the anus, for the cure of prolapsus. It is necessary to have the patient completely insensible in operations on this part, more especially in that for fistula, as any involuntary flinching during its performance would be a serious inconvenience.

4. For the removal of tumors from the back, and the performance of any other operations in that situation, it is best to let the patient inhale whilst lying on his side, and when he is insensible to turn him over, in a great measure, on his abdomen, allowing his head to remain in its former position on the pillow: in this way the inhalation can be repeated, if required, during the operation.

It is unnecessary to enumerate other operations, as they do not require any special directions, as regards the chloroform or ether. There are some cases to be mentioned, however, in which narcotism is attended with signal benefits, in addition to the prevention of pain.

5. There have been several cases of strangulated hernia, in which the inhalation of ether or chloroform has enabled the bowel to be replaced by the taxis, after previous efforts had failed, and where an operation must otherwise have been performed. I am not aware how soon etherization was employed with this happy result, but the earliest case that I find recorded is that of a patient of Mr. White, in the General Hospital, near Nottingham: it occurred on March 22nd, 1847, and the ether was administered by Dr. Sibson.* On July 10, 1847, there was a similar case under the care of Mr. Stafford, in the Marylebone Infirmary.† On March 6th, 1848, a man, James S., was placed upon the operating table, in St. George's Hospital, with a strangulated inguinal hernia: I administered chloroform to him at the request of Mr. H. C. Johnson, who had the treatment of the case; and when the patient became completely insensible, and the muscular system relaxed, the hernia was readily reduced by means of the taxis, although it was previously quite incapable of reduction. If the taxis had not been successful, the operation, for which the instruments were arranged ready, would at once have been performed, whilst the patient was still insensible. In the case of another

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[*] Surgical Experience of Chloroform.

[*] See Med. Gaz. Vol. xl. p. 1069.

[†] Med. Gaz. Vol. xl. p. 115.

patient, a woman with femoral hernia, who was placed on the table immediately afterwards, Mr. Johnson performed the operation as soon as she was rendered insensible, without employing the taxis, being deterred by the tense and inflamed condition of the tumor. This case ended favourably, as well as the former one. There are several other cases recorded in the medical journals of this and other countries, besides the three above enumerated, in which the use of ether or chloroform has enabled the surgeon to reduce a strangulated hernia without the operation.

6. Narcotism by inhalation facilitates the reduction of dislocations of the bones, besides preventing the pain of the process; and it has enabled the surgeon to reduce dislocations of long standing, which could not otherwise have been relieved. On June 24, 1847, Mr. Tatum reduced a dislocation of the shoulder of ten weeks' standing, with the aid of the pullies, in St. George's Hospital, whilst the patient, Richard R., aged 31, was under the influence of ether. The dislocation, which happened in the country, had been first overlooked, and when detected, could not be reduced. On February 7th, 1848, a dislocation of the femur into the ischiatic notch, which had existed for about three weeks, was reduced with the aid of the pullies, in the same hospital, by Mr. H. C. Johnson; the patient, Patrick C., an Irish labourer, being made insensible, and his muscles being relaxed, with chloroform. Three days afterwards, Mr. Tatum reduced a dislocation of the hip, in the hospital, of five weeks' standing; the patient, Joseph G., a working man, being put under the influence of chloroform. I have also given the vapour, in St. George's Hospital, in some cases of old dislocation, in which the position of the parts has been improved by the efforts made during the state of insensibility and relaxation, although their condition did not admit of complete reduction: two cases of dislocation at the elbow-joint were of this nature. Some cases of recent dislocation have been reduced under the influence of narcotic vapours, when previous attempts at reduction had been unsuccessful. Two cases of dislocation of the thigh-bone, in which Dr. Sibson administered ether, at Nottingham, were of this nature. One into the ischiatic notch, reduced by Mr. White, April 7th, 1847; the other on the dorsum ilii, reduced by Mr. Caunt, May 31st, 1847.* I assisted Mr. H. C. Johnson by giving chloroform to a gentleman with a recent compound dislocation of the last phalanx of the thumb backwards. The previous efforts at its reduction had failed, on account of the pain occasioned by them being more than the patient could bear. When he was rendered insensible, the dislocation was soon reduced.

Chloroform was given in many of the above cases because it was in use at the time, and could be employed without the delay that getting the ether ready would have occasioned. It answered very well; but it is my opinion that ether is preferable, both in dislocations and strangulated herniæ, as it induces relaxation of the muscles more easily, and with less previous rigidity.

7. The artificial production of insensibility is frequently of the utmost service in assisting the surgeon to form a diagnosis. I gave ether for this purpose at the request of the surgeons to St. George's Hospital, in February, 1847, to a little girl with disease of the knee and abscesses in the thigh. In this case, the great tenderness of the parts, and the nervous agitation of the patient, precluded every attempt to examine the state of the limb in the usual manner; but when the patient was rendered insensible, the condition of the limb was ascertained sufficiently to enable the surgeon to determine on amputation, which was performed on February 25th, by Mr. Henry James Johnson, the patient being again placed under the influence of ether. In several other cases of diseased joint and diseased bone, ether and chloroform have been employed in this hospital, to aid diagnosis in a similar manner. In sounding for stone, especially in children, it is of service to render the patient unconscious. I administered ether for this purpose in St. George's Hospital, as early as February 3rd, 1847, whilst Mr. Cutler sounded a little boy, aged four years. Dr. Thomas Smith, of Cheltenham, applied ether about this time, viz. on February 22nd, to

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* See Med. Gaz. Vol. xl. p. 1009.

enable him to ascertain the state of the corneæ of a child labouring under strumous ophthalmia.*

8. There are many operations on the female which medical students could seldom witness except at the expense of some shock to the feelings of the patient. They are now generally conducted in the hospitals in this wise:—The patient inhales and becomes insensible whilst only one or two surgeons and the nurse are present in the private ward, or behind the screen with her: the students then come in and witness the operation, and go away again before the consciousness of the patient has returned. In some operations in private practice, where the surgeon requires two or three assistants, they are not brought into the room till the patient is insensible, or she is made insensible in an adjoining room, and carried to the place selected for the operation.

9. Narcotism by chloroform or ether, to the extent required in surgical operations, occasionally leaves some effects after the immediate influence of the vapour has subsided: these may be called sequelæ. I have not observed that they are more frequent after one of these agents than the other. The only after-effects of inhalation with which I am acquainted are sickness, headache, and hysterical symptoms in those predisposed to hysteria.

Vomiting is apt to occur during the narcotism, or just afterwards. It can be rendered less frequent by the precaution previously mentioned,† of not allowing the patient to inhale soon after a meal, and also not carrying the narcotism further, if possible, than the third degree,—thus avoiding stertor and complete relaxation of the muscular system; but I believe that it cannot always be prevented by all the care that can be used, more especially if the inhalation have to be repeated, in order to keep up the insensibility for more than a few minutes. The vomiting no doubt depends on the action of the narcotic vapour on the brain, and is allied to that occasionally caused by opium and alcohol, and to that which occurs in some morbid conditions of the cerebrum. If the patient recover completely from the immediate effects of the vapour, without any feeling of sickness, he is not liable to it afterwards from that cause; and, in the greater number of cases in which vomiting does occur, the sickness goes off in a few minutes, and does not return; but in a few instances it continues for several hours, if nothing be done to relieve it, and in two or three cases it has lasted, under these circumstances, for two or three days. I have met with more or less vomiting in about one-fifth of the patients operated on, under chloroform, during the last six months: many of them, however, had received no previous directions respecting their diet. The number of cases in which there has been troublesome sickness has been one in twenty-six operations during the same period. I have never found the sickness continue more than five or six hours when I have been taking measures to relieve it.

Diminished temperature of the surface generally accompanies the sickness: indeed, the depression of the respiration and circulation attending it has a tendency at all times to lessen the development of animal heat. But chloroform and ether, I am quite satisfied, have also the effect of diminishing the production of caloric, quite independently of their action on the respiration and circulation; and, when inhalation has been kept up for some time, I have remarked the patient to become rather cold in cases where no sickness was present.

10. When sickness has continued after the immediate effects of the vapour have subsided, and the stomach has been quite emptied by vomiting, I have generally found that a little wine or weak brandy and water has removed the sickness. When the patient is cold as well as sick, warm wine and water, or brandy and water, are preferable; and other measures to restore warmth should be resorted to, such as warm covering, drawing the sofa near the fire, if it be winter, or applying a feet-warmer, if the patient be in bed. In two or three cases these measures did not afford relief, and ten or twelve minims of Battley's solution of opium were given, with the effect of completely and permanently removing the sickness: these, of course, were adult patients, and I have not found sickness continue very long in children. The

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* See MED. GAZ. Vol. xl. p. 676.

† Last Vol. p. 1024.

horizontal posture should, if possible, be preserved till the sickness has subsided, and for some time afterwards. It is desirable, indeed, to let the patient remain, without being moved or spoken to, till the narcotism has completely passed off, in every instance where it is practicable. The necessary removal of hospital patients from the operating theatre immediately after the operation causes sickness in many cases where I believe that it would not otherwise come on. I have not perceived any appreciable benefit from effervescing draughts, and I have not had occasion to try hydrocyanic acid or creosote. The application of ammonia to the nostrils sometimes seems to refresh the patient, but internally I think it is not so beneficial as wine.

The wine and opium recommended above are not given to combat the direct effects of chloroform, and should not be administered till the immediate influence of the vapour has subsided, unless it be the former, when it is required to remove faintness from loss of blood, which, however, seldom happens during narcotism. The opium probably acts by removing irritability of the stomach, occasioned by the vomiting, which was induced in the first instance by the state of the brain.

11. Headache is not a common result of inhalation: the few instances in which I have heard it complained of, occurred in persons in good health and inclined to plethora, and passed off spontaneously.

12. In describing the circumstances that modify the action of narcotic vapours, it was stated[*] that, in the hysterical diathesis, inhalation was liable to induce a paroxysm of the disorder, which might recur as the narcotism was diminishing. This usually soon subsides, but there are a few cases in which it remains troublesome for two or three hours. I have seen hysteria two or three times in the male, after ether and chloroform, in patients who had previously had the complaint. I have not found it to require any treatment, except in the case mentioned before;[†] and if it do, it should be treated in the usual way.

My own experience of hysteria, as a sequela of inhalation, is, that it forms no great impediment to its employment. Mr. Tomes,[*] however, has related three cases with which he had been made acquainted, where the disorder was more lasting and troublesome; and one case in which the use of chloroform was followed by worse effects than hysteria, viz. delirium, and subsequently an occasional vacancy in the patient's manner, leading her medical man to forbode insanity, sooner or later. In this last case, however, the patient had an overdose of the vapour, having been "almost pulseless — scarcely breathing," with a ghastly countenance. The chloroform was given by a dentist who evidently did not understand its effects, having first asserted that the lady was "under its full influence," when she, in fact, heard what he said, and then having given an overdose. The case only confirms a maxim, now beginning to be better understood than when chloroform was first suddenly brought into universal notice—viz. that it ought not to be used except by medical men who have studied its effects.

[To be continued.]

MISCELLANEA MEDICA ET PHYSIOLOGICA.

By Robert Dick, M.D.

[Resumed.]

Part IX.

48. *Management of temperature.*—In the transitions of temperature nature is very chronic. From midsummer to mid-winter day is a period of six months. Before a native of arctic regions can pass into tropical ones, he must consume weeks or months in the passage, during all which time he is being, day by day, acclimated to the change. Observe, moreover, that in *natural* air, whether of the frozen or the torrid zone, the atmosphere *breathed* is of the same temperature as that which surrounds and acts on the body. As the cutaneous surface suffers *painfully* from cold, it is reasonable to protect it by clothing, and this, and this only, is the true hygienic method of warming ourselves. For, take notice, what are the manifest inconveniences of the

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[*] Last vol. p. 1022.

[†] Loc. cit.

[*] See Review in Med. Gaz., last vol. p. 545.

method of maintaining the animal temperature by *fires.* Passing from the inside to the outside of our thresholds (at this season of the year, January), we step, in a moment's time, out of the tropics into Siberia! The body is, and may be, indeed protected against this terrible shock by clothing, but the lungs are not, nor can be. Hence our catarrhs, bronchitises, pneumonias, pleurisies. We expose the delicate Schneiderian membrane, and the membrane of the fauces and pulmonary air-cells, to extremes of temperature, from which we carefully protect the hardy cutaneous integument. It may truly be said that, as far as health is concerned, fire is an unfortunate agent. Hygienically speaking, our apartments should be of the same temperature as the outward air, and cold should be modified by clothing only within doors as without. I have succeeded in more than one instance in lowering bronchial irritability by gradually accustoming the patient to inspire a cold air while his body was warmly clothed.

49. *The stomach.—Natura formatrix* has a different estimate of the value of organs from what man himself has. The brain, at least popularly, is considered the noblest organ. Yet men and brutes have been born acephalous, and lived for a longer or shorter time. As to the heart, though wounds of it are quickly fatal, yet its function is a purely mechanical one. A pump (could we properly adopt it) would as well perform the duty. The heart is the only organ whose function we thoroughly know. Of the liver, lungs, kidney, brain, we are still greatly ignorant. I am not aware that there is a case on record of an *agastric* monster. Hence we may infer, that in nature's estimation the stomach is the most indispensable of organs, since, when she constructs not *it*, she does not think fit to construct any other organ or part.

51. *The urine.*—We have turned our attention too recently to the chemical examination of the urine, to be certain of its exact normal composition, and whether, for all climates and modes of life, there is one universal standard of healthy urine. Soil, air, diet, may, for aught we know, modify it greatly. Even in this country, we notice vast variations between the urine of different individuals, and of the same individual. Another point of high practical interest, in connection with morbid conditions of the urine, is whether the abnormal constituents mark the origin, the progress, or the resolution of diseases; whether, therefore, we should seek to repress them, or to leave them at least uninterrupted if we do not encourage them. I am satisfied, from repeated observation, that some morbid urinary deposits are analogous to ulcers: they *save* the man from some formidable internal lesion; from effusion, or erysipelatous inflammation, or medullary tumor. Nay, more, I anticipate the time when, more intimately acquainted than now with vital chemistry, we shall make *therapeutic* use of urinary deposits, nor view them as at present *solely* in a pathological view; when, as by blisters, we induce artificial cutaneous inflammation, so we shall artificially bring on certain classes of urinary deposits, thereby healing or averting morbid states of the blood and the secretions, and many impending structural maladies—among others, calcareous formations in the coats of the great arteries, and calcareous tumors in the cerebrum and joints.

If a man comes to you complaining of urinary deposits, you will often, on rigorous inquiry, find that these are, as it were, critical, and mark the *subsidence* of some constitutional disturbance, which, by deranging incretion, secretion, and excretion, has unbalanced the normal proportions of the constituents of the blood, and rendered unusual elimination by the kidney necessary, so soon as the system regained sufficient energy and order, to effect it. In such cases, deposits are not to be interfered with. The *vis medicatrix* orders them.

One important practical observation in regard to diuretics is, that they should be far more powerful *quantitatively* than *qualitatively*. What we mean is, that a very large volume of water should form the vehicle of all diuretics. We are fully satisfied that not a few cases of that disease, somewhat equivocally named *morbus Brightii*, and other structural diseases of the kidney, have been due to the neglect of this rule. When there is a large body of aqueous fluid in the intestines or blood, the mildest diuretic suffices to determine it to the kidneys: and the same result is obtained if the fluid is slightly *diureticized* before being swallowed.

52. *Betula Alba* (*the white birch*) has been said to be useful as a diuretic and anti-spasmodic. As we still want certain and safe diuretics, it might be worth while to determine the white birch's alleged virtues in this respect. Its anti-scorbutic properties are merely common to it, with all simple vegetable sap, containing certain vegetable acids.

53. *Physiology, Pathology, and Therapeutics.*—There is a peculiarity in the medical body of the present day. The passion for physiology and pathology predominates over that of therapeutics. It was not so in any former period of medical history. Even Democritus, though not a physician, evidently made his physiological and anatomical researches subordinate to the cure of disease. Still more so did Hippocrates, Galen, Celsus, and the Arabian physicians. Paracelsus studied chemistry with wonderful application and equal success; yet his discoveries and researches in chemistry are even less brilliant and memorable than his adaptation of these to therapeutics. Boerhaave, eminent for his chemical, botanical, and anatomical knowledge and acquirement, was more so for his learned and skilful practice. The same observation applies to the Hunters, to Cullen, and to Baillie.

There can be little doubt that the parade of pathological knowledge is often merely a proof of vanity, sterile industry, and therapeutical impotence. In the fine arts, it is permitted to embellish the useful with the beautiful and the superfluous. Not so in a practical art like medicine; every stroke in the portraiture of a disease, beyond the one that completes the likeness, is an evil. *There* we are entitled to cry "Halt! you have satisfied yourself and us as to what the disease is; proceed to treatment." But many men, at the moment in which I write, fancy they constitute themselves master-physicians, provided they are elaborate and endlessly profuse in pathological details, though their practice, when at length they condescend to apprise us of it, is not more original, sage, or scientific, than that of the humblest apothecary.

In the writer's opinion, the man who, with slender pathological and other knowledge, cures disease, unquestionably deserves to rank higher than he who, with such knowledge, yet fails to cure disease. We must never forget there are other signs of disease besides the posthumous ones of pathology; and it is an evil if, over-learned in pathology, we become *unlearned* in the *external* signs of disease, whose revelations, *unlike* those of pathology, are available while the patient still lives and is within the reach of cure.

Diagnosis, with a man accustomed to study and reflect on disease, becomes, after a time, intuitive. At a glance he forms a conjecture as to the case before him, and rarely does he find lengthened subsequent inquiries or volunteered information to alter his first instantaneous conclusion. The same rapidity characterises his opinion of the treatment proposed to be pursued. And what is remarkable, he arrives at these notions of the disease and the treatment by processes of thought, reasoning, and association, which he either could not convey to a brother practitioner at all, or only after a disquisition whose length would fatigue his neighbour's organs of hearing and his own organs of speech.

The commonplaceness, the want of principle, therapeutical and moral, of the present modes of treating disease, are lamentable. We are not manly or honest to the public or to ourselves. We tolerate numberless dietetic, hygienic, and social abuses, pardonable in some degree in the public, which knows no better, but not in the medical priesthood, appointed to teach and exhibit the truth. The times want medical men of enlarged minds and of moral force and moral influence.[*]

Bentinck Street, Manchester Square.

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[*] The writer, in resuming these papers, would beg to recal to the reader's recollection that these Miscellanea are purposely of a speculative, though (he trusts) of a soberly speculative character. His practical views on the *treatment* of a considerable class of disease, are contained in a long series of papers, not yet concluded, in a contemporary periodical. (See Alphabetical Notices on the Treatment of Dyspepsia, in the Lancet of the last two years.)

ON THE ART OF MAKING

TRANSPARENT PREPARATIONS OF THE BRAIN,

FOR THE USE OF THE MICROSCOPE:

With some Observations on the minute Structure of this Organ.

By JOSEPH SWAN.

AFTER dissecting the recent brain by slicing it, and also by the method adopted by Gall and Spurzheim, the forms of the several parts, the colour of the white and grey matter, and their mode of admixture, are advantageously observed. After rendering the fibrous condition of the brain more plain, by an extended immersion in alcohol, as practised by Reil; after extracting part of the grey and white matter by the use of a solution of potash, and the examinations of small portions of the white and grey matter by the microscope; there still remains very great obscurity as to the combination of the white and grey matter, their proportions and modifications of connection for different parts and different functions.

As a further means of investigation, I shall endeavour to describe the manner in which the brain becomes transparent, and the plan of treating it for allowing observations to be made, not only on small, but on very large portions, so that connected views may be taken by a lower power of the microscope; whilst, by a higher power, the minutest parts may also be determined.

I shall, as briefly as I can, state the manner in which I discovered this useful addition to the other methods employed by anatomists; and I beg I may be properly understood, as not considering it a means for superseding the other plans, but for extending and confirming them.

I placed on one glass slide a very thin portion of grey matter; on a second, a portion of white; and on a third, both white and grey in combination. Over each of them I put a piece of thin glass, and found, after I had examined them and put them by, that they were becoming transparent, especially at the edges, and had the satisfaction of finding that, in a few days, they admitted light freely through them, and were fitted for permanent use. In the one containing both white and grey, there were numerous insulated parts of each, and they were especially connected by very numerous fine threads, some of which were like needle points. I made many preparations in this manner, and several of them showed the same mode of combination. In others I observed modifications of this structure and arrangement, according to the functions of the respective parts, inasmuch as there was a larger proportion of white to the grey, and it formed evident cells or meshes, for containing and communicating with the grey. Having succeeded in making permanent preparations of small portions, I tried larger pieces, and at length found that considerable quantities placed on glass near the fire also dried transparent. As there is some uncertainty in cutting the recent brain for preparations, I thought it worth while to try if brains already hardened would answer the same purpose. I accordingly made thin slices, by sawing a portion of human cerebellum, which had been hardened in alcohol and afterwards boiled in varnish, and dried about eighteen years before; and although this showed well the arrangement of the gray and white matter to the naked eye, it could not be rendered transparent. I have since found that alcohol, according to its strength, and the length of time the brain is contained in it, produces a proportionate opacity. The gray matter will, however, after an immersion in alcohol, to a certain degree become transparent. When brain had been immersed in alcohol much diluted, so as not to become hardened, it would allow of some degree of transparency when dried; and if the spirit was so very weak as only just to prevent putrefaction, it would allow of some delay in making the brain into transparent preparations: nevertheless, I prefer not to use alcohol, except for a particular purpose. If brain be hardened in alcohol, and afterwards kept in spirits of turpentine for several days, it will not become transparent; nor if, on taking it out of this, it be covered with oil of lavender, or olive oil, varnish, or Canada balsam. Gray matter, after it has been immersed in spirit of turpentine, loses its more essential parts, and on becoming dry is resolved into white shining and friable crystals. Spirit of turpentine is therefore to be avoided as well as alcohol. I have not tried any powerful agents, especially nitric acid, as I wished to keep the brain pure, and thus avoid as much as possible any artificial appearances.

As the blood-vessels always contain more or less blood, and obscure very much many parts of the preparations, the brain must be immersed in cold water for from one to eighteen hours, and in this period the pia mater and bloodvessels are to be removed. The brain of birds and of animals still lower will not bear much immersion, nor of the removal of the pia mater. I cut half a sheep's brain that had not been immersed in water, into four longitudinal slices, and half a goose's brain into three. I then placed each slice on a glass slide, but did not cover them with their glass. I put the slides on a plate, and held it near the fire until a dry shining surface appeared like that of the newly formed cuticle. I then covered the plate with a piece of paper and placed it outside the fender. If the brain has been immersed in water and is soft, a few drops of alcohol may be poured on each portion, and thus much of the water is carried away. In a few days the smaller preparations will have become quite dry; but at the end of a week the under surface of the larger portions will still appear like fresh brain; but as it then begins to putrefy, they must be raised from the glasses by a very thin scalpel, and the soft parts carefully scraped off: they may then be placed again on clean glasses, and gently flattened, if they are uneven, but not if they form part of the surface of the convolutions, the striated body, or any other free surface. But if it be a portion of the gray and white matter from other parts, and it is uneven, the surface may be pared or scraped with a sharp scalpel: it may then be washed with cold water, and by a little friction with the ball of a finger whilst it is wet, it will soon be polished: the milky fluid thus formed must be washed away, and the preparation and glass dried by touching it gently with a soft silk handkerchief. After it has become quite dry, a little mastich varnish may be applied with the ball of the finger, and when dry a little copal varnish. Canada balsam has also been used, but it is a question whether it is so good for the purpose as the varnish, as this is only applied for preventing changes from the atmosphere, and other sources of damage.

For making preparations to show the external arrangement of gray matter, a thin slice must be cut from the convolutions and placed on a glass slide and allowed to dry, for if it is previously disturbed, some of the gray matter will be displaced, and the white will appear in patches. The gray matter is not so thick in any place as it seems to be when a recent brain is cut, but some of it contains also the terminations of the medullary matter.

For observing the approach of the medullary matter towards the surface of the convolutions, two methods may be employed: in the first, thin slices cut from the surface of the brain may be placed with the divided part upwards; in the second, a thicker slice may be placed with the divided part on the glass; and in a few days, when the outer surface has become dry, the piece may be separated from the glass with a scalpel, and the soft matter be carefully scraped away, and, according to the quantity of white matter remaining, the appearances will vary, so that in some parts there will be strong fibres approaching the grey; in others, these will be seen terminating in a surface of white matter investing the grey, and only leaving perforations for the blood-vessels; and in others this white surface may be seen resolving itself into beautiful fine threads before the ultimate termination in the grey. Near the surface of the striated body, cut and placed in a similar manner, there will be somewhat the same appearances. In the lower part of the striated body, and in other parts of the brain, fibres of the medullary matter, forming cells or meshes, may be observed, and in these grey matter, approached by points. This structure is often best observed in using the plain mirror. The striated body is composed of upright plates of medullary matter obliquely or transversely placed, and proceeding from the crus of the brain towards the oval centre; their internal edges are incorporated with the grey forming the free external surface; their outward edges pass upwards beneath the compact layer of medullary matter of the epithelium, and form part of the side of the lateral ventricle, and become connected with the tænia and the external boundary of the great commissure at its junction with the oval centre.

The thalamus superficially consists of medullary matter, tending to, and continuous with, the optic tract, and, beneath this, of grey matter; the fibres of the crus of the brain and the fibres of the anterior pedicle of the cerebellum in ascending to the great commissure pass underneath the layers forming the surface of the thalmus. In ascending, the more external fibres are continuous with the convolutions at the base of the brain, and with those connected with the parietes of the descending horn of the lateral ventricle. The greater portion passes beyond the striated body and thalamus, to terminate in the convolutions of the more superior regions.

Centres and their appendages are constructed in a varied manner according to their required purposes; but the nervous matters employed in the superior animals are also with appropriate variations used for the inferior, and their conditions in centres allowing the highest faculties, are, by further modifications, adapted for the lowest.

The nervous system generally appears in accumulations of grey or white matter, or both, and in ramifications extended from them. The grey and white matter have a general character in animals, but their colour may be more or less faded, and their texture attenuated, so as to allow modifications of their power and functions.

The more the colour of the grey matter fades, and the softer it is from the larger proportion of fluid diffused through it, and the more membrane there is intermixed with it, the less exciting is its power; the more soft and translucent the medullary matter from the quantity of fluid intermixed with it, the more easily some mechanical impulses are conveyed through it, and responded to by irritable structures; nevertheless, a higher condition of both grey and white matter admits not only of more numerous, but of more acute impulses.

Grey matter is cellular, and is more diffused than the white or medullary, and more copiously supplied with blood. It forms the primary seat of a general exciting influence, but does not show any determinate power unless it has an appropriate form and arrangement. The deeper its colour, probably the more it favours exalted faculties. It does not present a thick surface in the hemisphere of the brain. It connects some parts, as the surface of each thalamus through the soft commissure; it also connects the two halves of the oblong medulla and spinal marrow.

The white or medullary matter is filamentous or tubular; the filaments in many parts are extensively connected and combined: it is supplied with only a small proportion of blood, and admits to its own uses principally the colourless portions. It shrinks more than the grey after an immersion in spirits; it is chiefly employed in conducting, and is therefore arranged in fibres or laminæ, or in a smooth extended surface; it is also employed in forming commissures, or combinations of corresponding parts of each hemisphere. It appears to be extended in the epithelium lining the ventricles, in the fornix, and especially the anterior and posterior velum. The medullary matter is not so pure as it appears to the naked eye, but in very many parts contains within its cells or meshes more or less of the grey; and although it may appear a white surface, this may be very thin, like the epithelium of the ventricles, and contain behind it as much grey matter as usually forms a convolution.

Grey and white matter are generally conjoined. The grey gives more excitement to the white intermixing with it, and different proportions of each probably constitute variously modified powers. Both are thus placed as principles, which approach each other. Grey requires not only to have a determinate form, but to be combined with the white by a peculiar arrangement for producing and communicating any particular faculty; and according to its shape and quantity, and mode of conjunction with the white, it more readily receives and communicates impulses.

The continuation of grey matter over the surface of the brain forms a general power, but its greater or les interruption at the median line insulates in different degrees each hemisphere, so that their separate faculties are not confused or interfered with by a too general connection through the grey matter. When the hemispheres are smaller, and especially in amphibia and fishes, their separation is not necessary. Some forms exist for separating the faculties of one part from those of another, and modifying what would otherwise have constituted a more uniform and general power, and thus giving to each distinct faculties; so that probably the approach to a round, or oval, or pointed form, modifies them, as of the nates or testes, the single tubercle instead of two mammillary bodies, and the shapes of the convolutions, the absence of the oval form of the clivary bodies, and the various shapes in animals having the brain loosely placed in the cranium, where the several parts are not modified for agreeing with any necessary form of the skull.

The grey matter of the surface of the brain, cerebellum, and quadrigeminal and striated bodies, is external, whilst it is internal in the cases of the brain, the ciliary body, the annular tubercle, and the oblong and spinal medulla. It probably heightens the faculties of the white fibres, and allows them to have a more impressible condition from subtle impulses, whether it be added to tracts or nerves. The internal position of small portions of grey matter may have offices subordinate to those of the convolutions.

Medullary matter modifies the faculties of the grey, and is the general conductor or connecting medium between different parts of the brain, and between those and the spinal marrow and nerves, and conveys impulses from particular centres, according to its form and the direction of its fibres, and the faculties of each of these.

The conducting power of the medullary matter depends upon the breadth or thickness of some parts only, as the crura bear no proportion to the quantity of the oval centre connected with the convolutions. When the oval centre is large in proportion to the crura, as it is in man, much of it must exist for completing the powers of a capacious sensory, and allowing more extensive combinations of tracts in connection with the limbs and other mechanial forces. When it is small in animals in proportion to the crura of the brain, and the oblong medulla and nerves, it gives them only a more free and powerful connection with a contracted sensory: this, however, suffices for the sensibility and direction of the limbs and other parts, but does not afford them the same quality, nor the same complexity and diversity of action in connection with the intellect, as in man

If the grey and white matter can be conceived as existing in combinations with other structures, they may form a power, pervading the whole, and favouring a general perceptive and motive action. If they form one or more accumulations or centres, and have nerves radiating from them, perceptions are confined to the particular spots impressed, and equally partial motion are existed. If they form more complex centres, so as to admit of their coalition with the immaterial agents, they allow sensation and voluntary motion and operations demonstrating intelligence. If there is a still greater complexity, as in man, they allow the mind to direct its faculties for executing all the purposes the human body is capable of completing.

ON THE SPECIFIC GRAVITY AND PURITY OF CHLOROFORM. BY DR. G. WILSON.

The densities of the chloroforms examined by Dr. Wilson were determined by Mr. Swan, with a balance in my possession, weighing delicately to the thousandth of a grain. They are stated in the order of their density:—

Specific Gravity of Chloroform at 60° F.

1.	Commercial	1·4636
2.	Commercial	1·4851
3.	Washed and rectified . .	1·4929
4.	Washed and rectified . .	1·4937
5.	Commercial	1·4939
6.	Washed and rectified . .	1·4966
7.	Washed	1·4968
8.	Commercial	1·4974
9.	Washed and rectified . .	1·4980

The mean of these numbers is 1·4909. The first specimen, however, must be excluded, as of much too less density for pure chloroform. The second, too, is so much below all that follow it, that it must be set aside also. The mean of the numbers for the remaining seven specimens is 1·4956. One of these, however (7), had been purposely saturated with water, and could not therefore have the density of pure anhydrous chloroform. The specimens numbered 8 and 9 are those on which most reliance is to be placed. A fluid ounce of the former evaporated to dryness, left no residue, nor could any impurity be detected in it. The latter I washed and rectified very carefully. It was ultimately distilled twice: once from chloride of calcium, and a second time in a dry retort, to remove any trace of that salt which might have passed over in the first distillation. The mean of Nos. 8 and 9 is 1·4977.

From these results, it appears that pure chloroform, instead of having a density of 1·480, should have one of at least 1·495, and may be prepared, as it is indeed by at least one maker in Edinburgh, with a sp. gr. of 1·497.

A greater density, then, than has hitherto been required, should be demanded in the case of chloroform. A high specific gravity, however, is not enough to warrant the purity of this liquid. Specimens with the density 1·494 do not in many cases produce the full and pure anæsthetic effect of chloroform containing no foreign matter.

A relative having occasion to have a tooth extracted, I requested Mr. Nasmyth to use the chloroform which I had washed and rectified, as mentioned above in reference to the specimen numbered 6, of which it was a portion. Mr. Nasmyth was so struck with the unusual rapidity with which anæsthesia was induced by this chloroform, that I left a portion of it with him, that he might ascertain whether it exhibited the same superiority when used with other patients, as the quick result in a solitary case might be the result only of individual peculiarity of temperament or constitution. In further trials, however, it maintained its superiority so unequivocally, that, at Mr. Nasmyth's request, I washed, and rectified from chloride of calcium, a considerable quantity of commercial chloroform. On recently applying to this gentleman to ascertain from him what estimate he now formed of the relative anæsthetic powers of the ordinary and the purified chloroform, he stated to me, in reference to the latter, "I am quite satisfied that it is superior to any kind which I have used. A smaller quantity produces the anæsthetic effect, and it is not so liable to cause coughing or other irritation. Probably avoiding the disturbance caused by the irritating cough, allows the chloroform to take effect more readily, and a smaller quantity, in consequence, answers the purpose."

The density of the rectified chloroform, which Mr. Nasmyth first employed, was 1·496, a higher sp. gr., as already mentioned, than that of any of the commercial specimens examined, except one, which was quite pure.—*Edinburgh Monthly Journal.*

MEDICAL GAZETTE.

FRIDAY, MARCH 16, 1849.

The resolutions passed at a meeting of the Medical Society of Bury, Lancashire, and lately published in our pages,* exposes a grievance to which the profession has hitherto very quietly submitted. We have at various times inserted numerous letters complaining of the inadequacy of the fees allowed by coroners, for the troublesome and responsible duties thrown on medical men who are summoned to attend inquests. Coroners, however, are not so much to blame as the county magistrates, who, regardless of any other principle than the saving of the rates, refuse to allow those disbursements which may be rendered necessary by the medical difficulties of a case demanding scientific inquiry. It has happened on some occasions, that when the coroner has paid the witness with liberality, the additional fees have been disallowed at the Quarter Sessions, and he has thus been fined for performing his duties in a fair and conscientious manner. It is not, therefore, surprising that there should be continual squabbles between coroners and medical witnesses. The former cannot pay fees which will not be repaid to them; hence, however inadequate a fee of one or two guineas may be for the services rendered, so long as the law remains in its present state, medical men, if they take up the investigation of a case, must submit to this scale of payment.

On the principle of *volenti non fit injuria*, if a practitioner has a copy of the Medical Witnesses' Act before him, and he receives a summons requiring him to make an examination of the body, he knows that the amount of the fee is fixed by law, and he cannot complain of a coroner for not awarding him a larger sum. If, besides a post-mortem examination, a chemical analysis should be required, he has in general a fair plea for avoiding this responsible duty, on the ground that his attention has not been particularly directed to this branch of scientific inquiry, and that he does not feel competent to undertake it. No coroner, aware of the serious consequences of a mistake, would think of compelling a medical man, unacquainted with chemistry, to take up for the first time a most difficult chemical investigation. In a case like this, the coroner would be compelled either to abandon the inquiry, or to place it, under a special agreement, in the hands of a competent person. It would be unjust that this officer should suffer in pocket by such a proceeding; and he would be fully justified in throwing the onus of rejecting important scientific evidence, upon the magistrates, by making an appeal to them for the allowance of special fees. In the event of a refusal, it is clear that the failure of justice would be owing to the conduct of the magistrates in withholding the expenses absolutely necessary for the inquiry. In this way medical men and coroners may, to a certain extent, protect themselves. At an inquest a fee is always allowed for a post-mortem examination and attendance to give a medical opinion; and, although small, it is some remuneration for the trouble incurred.

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* Page 306.

When medical evidence is required before magistrates in criminal cases, the system pursued is widely different. There are no fees fixed by law, and unless the offender be committed for trial, a medical practitioner will be expected to give his time and professional opinion *gratuitously* for the benefit of public justice! It is to this piece of injustice towards medical men that the resolutions of the Bury practitioners are especially directed. Many years since we published in this journal a case wherein a medical man was not only denied his fees, for evidence given before a magistrate in reference to a charge of "concealed birth," but, as he was the only responsible person present, he was actually bound over as the prosecutor at the trial! An Act of Parliament was afterwards passed to prevent medical men from being placed in this disagreeable position, but no fees were allowed for evidence. It was left optional with the magistrate to grant a certificate for the payment of fees to the surgeon, if the prisoner should be committed for trial. As a great number of cases do not end in committals, the medical witness must in general go unremunerated; while in those cases in which committals are made, it is by no means certain that he will receive a certificate for his fees. He has then no other resource than to make a public appeal to the judge before whom the case is tried.

The Bury practitioners have adopted a resolution regarding this unjust mode of treating medical witnesses, which only partially meets the difficulty. "That no member of this Society attend to give evidence in any criminal case at Petty Sessions, unless legally subpœnaed thereto." We quite concur in the propriety of this resolution; but we are at a loss to know why medical men should ever venture to attend a coroner's inquest, without a *legally* expressed summons,—or a trial, without a subpœna. It is unnecessarily exposing themselves to the risk of having payment of their fees refused, and spontaneously divesting themselves of a legal right to claim them. This resolution, however, will be inoperative in a large class of cases. A man is stabbed during a quarrel, and a practitioner is called to attend him. He recovers, and the case is investigated before a magistrate. The medical attendant is compelled to attend by summons or warrant, and the charge is dismissed. A good amount of valuable time, and a professional opinion, are thus extorted from him; and his application for a fee may be met by an answer from the magistrate that the law did not empower him to grant any remuneration. Cases of this kind are very frequent. Every practitioner, therefore, who charitably attends a person, the subject of an injury likely to give rise to a criminal charge, must be prepared to go further with his gratuitous services, and attend before a magistrate without fee or reward, until the matter has undergone a full legal investigation. This mode of dealing with medical practitioners operates injuriously in two ways. 1. A surgeon cannot even perform an act of charity towards a wounded person without the risk of incurring great loss and serious responsibility. 2. His fee in a criminal case is made to depend upon the committal of a prisoner for trial. Although this is not likely to induce him to shape his evidence with undue bias, it is contrary to sound policy and moral feeling that the remuneration for his services should be made to rest upon such a contingency.

A VERY important step has been taken towards the entire abolition of intramural interments. The City Officer of Health has recommended that no more burials should take place in one of the grave-yards in his jurisdiction, owing to the ground being already so filled, as, in his judgment, to prove injurious to the health of the neighbourhood. We think this method of closing the metropolitan grave-yards is likely to be more effectual than an appeal to parliament. Years may be spent in procuring an act of the legislature: the attempts hitherto made have failed, partly from interested opposition, and partly from the great difficulty experienced in suggesting any plan for the economical interment of the poorer classes. The gradual closure of these overstocked burial-grounds on sanitary principles, removes all reasonable objections, and will enable parishes to provide extramural interment for the dead. If a watchful eye be kept over the various localities, these city nuisances may be as effectually suppressed as any others of a less extensive kind, which have been made the subjects of sanitary legislation.

Reviews.

A Report on Orthopædic Surgery. By M. GUERIN. Presented to the Provisional Government of France, by a Commission consisting of MM. Blandin, P. Dubois, Jobert, Louis, Rayer, and Serres, and President, M. Orfila. 4to. pp. 202. Paris: 1848.

THIS Commission, of whose labours we here propose to lay before our readers an abstract, was appointed by the French Government, in 1843. Subsequent events did not in the opinion of its members release them from their duty: they therefore submitted to the late Provisional Government a very full report on M. Guérin's orthopædic treatment at the Hôpital des Enfans, which has occupied their attention for a period of four years.

According to the terms of their instructions, the members of the Commission were more especially directed to give the results of the orthopædic treatment, with their own opinion on any disputed point,—as well as the limits between orthopædic and ordinary surgery, and the real value of the former.

In order to arrive at just conclusions on these points, so important to the scientific appreciation of this new branch of surgery, they, for a period of four years, closely watched each case which came under their notice from the beginning to the end of the treatment. The cases were taken indiscriminately by M. Guérin from those which presented themselves to notice during the period of this investigation. In each case M. Guérin invariably pointed out the particular features he wished to illustrate, and a cast was taken. Where an operation was performed, the precise state of the part previously and subsequently, was carefully observed and recorded, new casts being taken at the various stages of the proceedings. Even after the cure, each case was for a long time kept under observation, so that the permanency of the benefit might be ascertained.

The report is divided into two portions; the first being a detail of cases, the second consisting of observations and conclusions from the cases narrated in the first part.

M. Guérin submitted sixty-three cases to the scrutiny of the commission, divided into eleven classes.

1. *Strabismus.—Five cases:* of these, three were *primary*, originating in primitive retractation of one or more muscles; two were *consecutive*, resulting from unsuccessful operations previously performed for primary strabismus; of these, also, one was double; in both the globe of the eye was drawn outwards. In all these cases the treatment adopted was attended with complete success.

2. *Wry-neck.*—Five cases of this distortion, differing in seat, degree, date, and complication, came under the notice of the Commission. Four out of the five were entirely cured by section of the muscles affected—viz. either the sterno-cleido-mastoid, a portion of the trapezius and splenius, with subsequent mechanical means for correcting the vertebral distortion. Three of the cases were of long standing, and the distortion was very great.

3. *Curvature of the spinal column.*—Where this distortion does not depend upon any disease in the bone, it has in many cases been relieved by a section of some of the muscles of the spine, in the same manner as strabismus, club-foot, &c. Of nine examples, four were uncomplicated; five were complicated with distortion of some part of the thorax or of the upper extremities. The seat of the contraction was in the upper part of the dorsal region in two; in the middle of the dorsal region in five; in the lumbar region in two. In seven cases the inclination was to the right side; in two, towards the left.

The muscles divided were the sacro-lumbales, the longissimus dorsi, the interspinales, the trapezius, rhomboideus, splenius, several muscles of the shoulders, and of the sub-occipital region.

The general results of this mode of treatment of spinal curvature as reported by the Commission are, that the nature of these cases is as capable of distinction as strabismus, club-foot, &c.; that they are amenable to section of the muscles, combined with subsequent mechanical treatment, though not to the extent of muscular deformities of the limbs, &c.; that some lateral curvatures are completely cured; and that the results differ from those obtained by the use of mechanical appliances.

3. *Congenital luxation of the femur.*—The commission investigated these cases especially with reference to M. Guérin's opinion of muscular contraction as their cause, the applicability to them of the division of muscles, and the degree of amelioration afforded thereby. In these three cases, section of the gluteus maximus and medius, and of the tensor vaginæ femoris, with long-continued mechanical means of extension of the limb, proved successful in giving to the previously contracted limb, the length of that of the sound side, and in bestowing on the patients full powers of progression, thereby removing the lameness under which they had laboured since birth. Besides the three cases the cure of which had been witnessed by the Commission, two others presented themselves: in one the operation was necessarily postponed in consequence of illness, and in the other (a case of double dislocation), the treatment was not complete when they brought their investigation to a close.

On account of the novelty of the theory advanced by M. Guérin, on the cause of this deformity, and the importance of the subject, we give the conclusions of the Commission. "If these five cases which have been submitted to our examination do not undeniably establish, they are certainly more favourable than otherwise to the etiological views of M. Guérin. That, although the results obtained by this new mode of treatment do not warrant us in deciding in its favour, yet it doubtless offers resources which surgery did not before possess.

5. *Distorted Knee.*—In five cases of this deformity treated under the notice of the Commission, one was owing to rickets, two to a combination of rickets and muscular and tendinous retraction, the other two were purely muscular and tendinous contractions.

M. Guérin's aim in this class of cases was to show to the Commission that it is possible to distinguish clearly by precise characters the species of distortion; and that it is indispensable to apply to each its appropriate treatment.

M. Guérin also demonstrates that the internal displacement of the knee arises from a shortening of the fascia lata, of the biceps, and of the external lateral ligament, either singly or collectively, and therefore is analogous to wry-neck, strabismus, club-foot, and certain spinal curvatures, which are remediable by subcutaneous division of the muscles, aided by mechanical contrivances.

The results of treatment in the five cases justify the Commission in concurring in M. Guérin's views.

6. *Club-foot.*—Ten cases of this deformity were submitted to the inspection of the Commission. These were of various kinds and complications, but subluxation of the toes was the most frequent complication.

The club-foot cases were arranged in five categories:—

The first, those of the simplest form of the *pes equinus*, complicated with subluxation of the toe, were treated not only by the usual division of the tendo-achilles, but the tendons of the extensors and flexors of the toes, and the plantar aponeurosis, were also divided: these means, aided by mechanical contrivances, effected complete cures.

The second class included three cases of *varus* complicated with shortening of the muscles of the calves of the legs, of the anterior aspect of the limb, of the long flexor, and of the abductor of the great toe, and of the ligaments of the tibia, astragalus, and other bones of the tarsus. These cases of fixed complication called for all the resources of tenotomy and mechanism, and afforded the Commission ample opportunity of appreciating the value of indications furnished by, and treatment based upon, a rigorous analysis of the causes of the deformity.

The third class embraces three examples of what M. Guérin denominates *painful varus* (pied plat varus douloureux), distinguished by the following characters:—1. The foot is bent outwardly, so as to rest on its internal edge. 2. The foot is bent towards the heel. 3. Projection of the astragalo-scaphoid articulation, with flattening of the plantar arch, and corresponding external depression. All these patients were boys of about twelve or fifteen years of age: in each the deformity had come on recently and rapidly, beginning with pain in walking, shortly followed by contraction and deformity of the limb; pain of the joint continuing to be a prominent symptom.

M. Guérin attributes the distortion in these cases to muscular shortening alone, and applies to them the same treatment as to ordinary club-foot. The results of this treatment, which the Commission watched with much interest, have confirmed, in their opinion, the views of M. Guérin, and established the facility of their cure by section of the tendons and consecutive mechanical treatment.

The fourth class includes the paralytic forms of these distortions, in which paralysis of some muscles was combined with shortening of others. They serve to show that the existence of paralysis does not preclude the application of tenotomy to the retracted parts, but that, on the contrary, by liberating these tendons and muscles, the re-establishment of muscular contractilities in the paralysed muscles is thereby favoured.

In the cases which M. Guérin submitted to the Commission he did not wish to occupy their attention with what had been previously made known, but rather to lay before them what he considered to be new in surgical practice.

In a scientific point of view, he considers that he has systematised each form of distortion, and pointed out its appropriate treatment; and that, in showing how each muscle, tendon, and ligament, influence certain deformities, he is pointing out how to establish a rational mode of treatment, where before there was only empiricism.

In respect to *art*, M. Guèrin claims to have pointed out operations which secure perfect reunion of the divided tendons, without causing nodosities or adhesions, and a system of consecutive mechanical contrivances as easy as they are certain in their effects.

We do not here entertain the question how far M. Guérin may have been anticipated in these views by British surgeons.

7. *Inflammatory articular deformities.*—Of these, two cases only are reported: one acute, the other chronic.

The first was a case of acute inflammation of the left hip-joint, in a girl thirteen years of age, of seven weeks' standing, during convalescence from typhus. It was attended with shortening of some of the pelvic and femoral muscles, and with paralysis of others. The pelvis was depressed and turned forward on the left side; there was permanent lameness of the same side, and progression was attended with pain. The treatment consisted chiefly in the local application of tartar emetic, with the internal exhibition of opium and mild aperients. This case, which came under treatment on the 8th of December, 1844, was pronounced perfectly cured early in February, 1845. The treatment here may be regarded as having prevented a great deformity, such as existed in the second case of chronic inflammation of the hip-joint in a child of six years of age, and in which, after the employment of general and local means for the removal of the inflammatory symptoms, recourse was had successfully to the division of the two adductor muscles.

8. *Contraction of cicatrices.*—In the treatment of this class of deformities, usually difficult and painful, M. Guérin proposes a new mode, which he terms *methode par déplacement des cicatrices*, which consists in detaching the fibrous cicatrix from its seat, and grafting it on to the more distant part of the contraction, care being taken at the same time to prevent the union of the divided ends.

Two cases of considerable deformity were successfully treated by this method.

9. *Ricketty curvatures of the limbs.*—M. Guérin has only had opportunities of demonstrating on the dead body his mode of treating these cases by subcutaneous operations.

10. *Tubercular curvatures of the spine.*—In four cases M. Guérin exhibited to the Commission the success of his endeavours to produce ankylosis in a straight direction by adopting the recumbent prone position, and by the use of local irritants to the seat of disease.

11. *Lumbar abscesses.*—M. Guérin's treatment in these cases consists in opening by subcutaneous puncture,—thus avoiding the decomposition of the pus by contact with the air; with suitable internal treatment.

The conclusions of the Commission are, that the results of M. Guérin's treatment are remarkable for the skill with which he has operated; and, that from their originality, they constitute a new branch of surgery.

Observations on the Management of Madhouses. By CALEB CROWTHER, M.D. Part III. Small 8vo. pp. 126. London: Simpkin, Marshall, and Co. 1849.

DR. CROWTHER is an opponent to the control of madhouses by magistrates, and is a decided advocate of the non-restraint system. In this little essay the medical reader will find some useful hints respecting the management of the diet of lunatics, and the medical and moral treatment of lunacy. Several of the chapters are occupied with uninteresting critical comments on the Reports of the Commissioners of Lunacy.

The Diagnosis and Treatment of Eruptions of the Scalp. By T. M. NELIGAN, M.D., M.R.I.A., &c. 8vo. pp. 55. Dublin: Hodges and Smith. 1848.

DR. NELIGAN justly observes in his introductory chapter, that *eruptive diseases of the scalp afford a fair domain to the quack.* This can only be ascribed to the neglect of the study of the special characters and treatment of these diseases, by medical practitioners; and it is the object of the treatise before us to furnish simple rules for diagnosis, as well as practical suggestions for their treatment. The author is therefore very concise in his description of each of the scalp affections, and he studiously avoids any detailed account of their history. He divides these diseases into two classes :—*Inflammatory*, comprising Herpes, Eczema, Impetigo, and Pityriasis; and *Non-inflammatory*, comprising Porrigo. The treatment is based on his own personal experience in the wards of Jervis Street Hospital. This will be found a useful little guide to those who are called upon to treat these troublesome diseases.

Surgical Anatomy. By JOSEPH MACLISE, Surgeon. Fasc. 11. London: Churchill, 1849.

THE present part contains illustrations of the surgical anatomy of the sterno-clavicular, or tracheal region,—of the axillary and brachial regions,—of the male and female axillæ compared,—and of the bend of the arm and fore-arm. The arteries and veins are coloured. We have already had occasion to speak of the extraordinary cheapness of this work. The drawings are elaborately executed with the pencil of an anatomist, and are well calculated to assist the student of surgery, in giving him a good knowledge of the relative position of parts. The shading is rather too dark, but we are bound to state, that this does not interfere with the practical utility of the plates.

APPARENT SYNCOPE IN BRONCHITIS.

THIS, probably a not unfrequent symptom, I observed first in the early stage in one of the nurses, who, while requesting advice for a very severe cold which affected his chest, accompanied with pain in the head, fell at full length on the floor. He was treated by venesection, purgatives, and expectorants, and soon recovered.

A young sailor was not long after admitted, with recent bronchitis, in whom the same thing occurred. Finding that the pulse was not greatly reduced, as in common syncope, I bled him at once from the arm, with a favourable result. Oppressed respiration, causing an oppressed circulation, and deranged supply to the brain, must have caused the sinking, which, in appearance, was exactly like the fainting of debility.—*Dr. Hartshorne; American Journal of Medical Sciences* for January, p. 47-48.

Proceedings of Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Anniversary Meeting.

THE anniversary meeting of the Society was held on the 1st of March, the President in the chair. The meeting was more numerously attended than usual, in consequence of its being anticipated that some remarks would be made on the mode of electing office-bearers, and other matters of vital importance to the institution. The auditor's report was first read, from which it appeared that the receipts had considerably exceeded the expenditure, and that the Society had at present nearly £3000 funded property. The secretary's report showed that the number of fellows had increased by ten, and had been progressively increasing for several years past; the number of fellows at present was 578. Some observations were made on the necessity of remodelling the plan by which the publication of papers, or abstracts or parts of them, was to be regulated. The library had been greatly augmented during the past year. The President afterwards briefly addressed the meeting respecting the following fellows, who had died during the past year :—Dr. Nelson, one of the founders of the Society in 1805, had lately died at Tunbridge Wells.—Mr. Page Scott had joined the Society in 1821; he was originally a partner with Dr. Rigby, of Norwich, and for some time surgeon to the hospital and castle in that city. He had for many years a most extensive midwifery practice, and was the author of a paper on Rupture of the Uterus.—Dr. Campbell had been in the prison at Verdun until after the disaster of the French at Moscow. He afterwards graduated at Edinburgh, and became a teacher and practitioner of midwifery in that city; he had formed a valuable museum.—Mr. Crowfoot, of Beccles, was a pupil of Cline and of Cooper, and was an active and zealous member of the profession, to the literature of which he had contributed. He was mentioned with commendation by Sir A. Cooper in his work on Dislocations. He died of malignant typhus fever, consequent upon a dissection wound.—Mr. Charles Lewis Parker entered the Society in 1843. He was educated at the Charter House, Wadham College, Oxford, and St. Bartholomew's Hospital. He was surgeon to the Radcliffe Infirmary, at Oxford, and had died of a low fever, at the early age of thirty-seven.—Dr. Clendinning was a native of the county of Mayo, became a fellow of Trinity

College, Dublin, and took a degree at Oxford. He was elected physician to the Western Dispensary in 1828, and to the Marylebone Infirmary in 1834. He was elected F.R.S. in 1841; he had been secretary, vice-president, and trustee of the Society.

Some discussion now took place respecting the removal of the Society to other premises, and—

Dr. **Webster**, who had previously requested permission to address the Society, was informed by the President that he could do so. He said, he rose to address a few remarks to the Society, not so much respecting the question of its continuance or removal from the present premises, as in consequence of some rumours prevalent amongst several fellows, who thought themselves aggrieved because their own names had never appeared in recent house-lists for election into the council. He considered it always better to state publicly that such feelings existed, than to leave dissatisfaction to continue; for if any grievance really prevailed, when it was mentioned, the cause would doubtless be removed,—and if unfounded, no refutation was necessary. In coming forward, on the present occasion, to allude to such matters, he (Dr. Webster) was not actuated by any personal motive; he merely did so as an independent fellow, anxious to support the character of the Society, and to promote its objects. Having been already on the council, entertaining no desire at present to be again in office, he assured the meeting that the sole reason influencing him to make any remark was, that future councils might know the opinions entertained by some fellows in regard to the usual mode of electing the officers of the Society, as likewise of appointing the Committee of Referees. He did not mean to allude to individuals, and would much regret if his (Dr. Webster's) remarks should hurt the feelings of any gentleman now recommended for election; many of them were his personal friends, and for whom he entertained great regard; but on the present occasion he spoke purely on public grounds, and without reference to private friendship. Looking, therefore, impartially at the house-list recommended for election at the future council, amongst the twenty-one names it contained, fourteen, or two-thirds, were officers of hospitals, whilst two hospitals actually monopolized six of these gentlemen—viz., the schools to which the secretaries were attached, there being three members from each. Nine of the new council had been previously in office, five were junior fellows, elected in 1840, or more recently, and nine had never contributed any paper to the *Transactions*. He (Dr. Webster) did not by any means object to hospital officers being members of the council,—quite the reverse; but, candidly speaking, a more equal distribution should prevail, as well amongst hospital officers as the fellows at large; and there should be no monopoly, since the London, the Charing-cross, the Free Hospital, and perhaps others, were passed over at present. Further, on looking at the list of members, recently published, out of the 126 resident fellows, elected in 1840 and previously, forty-five, or one-third, never were on any council, although some had been twenty or twenty-five years in the Society. But there was another body, almost of equal importance as the council—viz., the committee of referees, to which he (Dr. Webster) would also beg to allude; and although the members thereof, instead of being elected by the Society, were indirectly nominated by the council, similar remarks might apply to its constitution. For example: of the twenty-four fellows composing the committee of referees, eighteen were hospital officers; the half of these, or nine, being attached to two schools, one of which happened to be that of the medical secretary; four belonging to St. Bartholomew's Hospital, and five to King's College; eight were junior fellows elected in 1840, or subsequently; seven never contributed one line to the *Transactions*, and seven had not served on previous committees, where they could alone see the mode in which the Society's business was conducted. According to his (Dr. Webster's) views, the committee of referees should be chiefly composed of senior fellows, who had been previously members of council, and especially of authors who had contributed papers to the *Transactions;* because, having themselves gone through the trying ordeal of submitting their own productions to the decision of others, when thus acting as judges they could then more easily understand the feelings and anxieties of parties placed in the same nervous position. He (Dr. Webster) likewise thought no member of the council should at the same time be placed on the committee of referees, as this gave the person so situated double power: first, in giving an opinion on the merits of a paper; and, secondly, of voting, as well as of speaking, in favour of or against its publication, when the referees' reports came before the council for consideration. A monopoly of offices in any way should be always avoided. Having considered it his duty, as an independent fellow, to make these remarks respecting the constitution of the house-list for the new council, as also on the existing committee of referees, he (Dr. Webster) would only further observe, before sitting down, that however excellent a library the Society had accumulated, however eminent many of the fellows were, undoubtedly, some being of the highest repute in Europe, and whatever other advantages the Society possessed, its great reputation chiefly depended on, and would always continue according to, the value and importance of their published *Transactions*. For these reasons he (Dr. Webster) considered the fact of having contributed papers to the Society should give the writer a strong claim, not forgetting others, to fill any office in the Society. Indeed, this opinion had been often promulgated by one of their late secretaries, whose premature death they now deplored—namely, Dr. Clendinning, and he fully concurred in that sentiment, since it would prove a stimulus to working fellows. After apologizing for the time occupied with his remarks, Dr. Webster hoped the observations, and the analyses he had taken the liberty of making, would be in due time considered by future councils in the way such questions deserved, so that any unpleasant feelings which might still exist in the Society would be allayed, harmony restored, and thus matters go on henceforward smoothly and satisfactorily. Dr. Webster, after being frequently cheered during his address, sat down amidst general applause.

Dr. Baly, who had once or twice risen to object to some statements of the last speaker, but who was requested to wait until his conclusion, now said that he had no personal ends to serve in the office he held. He was only a lecturer at, and not an officer of, St. Bartholomew's Hospital. Since his election, only one referee had been appointed connected with that hospital.

The President said he had allowed the discussion to proceed so far, but would not permit its continuance. The Council had always endeavoured to do the best for the Society at large.

The following is the list of the officers of the Society for the new session:—

President: Thomas Addison, M.D.—*Vice-Presidents:* Henry Davies, M.D.; George Burrows, M.D. F.R.S; George Macilwain; Samuel Solly, F.R.S.—*Treasurers:* James Alderson, M.D. F.R.S.; Benjamin Phillips, F.R.S.—*Secretaries:* William Baly, M.D. F.R.S.; Fred. Le Gros Clark.—*Librarians:* John Hennen, M.D.; James Dixon.—*Members of Council:* Robert Nairne, M.D.; William Sharpey, M.D. F.R.S.; Leonard Stewart, M.D.; Seth Thompson, M.D.; Charles J. B. Williams, M.D. F.R.S.; Sir B. C. Brodie, Bart. F.R.S.; James Bird; William Fergusson, F.R.S.; Samuel A. Lane; James Paget.

PATHOLOGICAL SOCIETY OF LONDON.

March 5th, 1849.

Richard Partridge, Esq. in the Chair.

Dr. Ogier Ward exhibited a specimen of

Tubercular deposit in the Cæcum, and the commencement of the Colon.

The patient from whom this preparation was removed, was a female, aged 19. She was one of six children, all of whom had exhibited some well-marked sign of a highly strumous diathesis. At the age of puberty she shewed symptoms of chlorosis: this disease lasted about three years. About four months ago she menstruated slightly. Early in January, Dr. Ward was called to see her in consequence of abdominal pains. Symptoms of fever, complicated with some diarrhœa, now supervened. There was dulness on percussion over the left epigastrium; the abdomen was slightly distended. In the right iliac fossa there was a hard tumor, painful on pressure, deeply seated, about the size of an egg, definable upwards, but not towards the pelvis. The patient continued to get weaker. The fever now assumed an intermittent character, in consequence of which quinine was exhibited. The pulse was now 120; fæces clay-coloured; urine deeply tinged. Her debility gradually increased; and on the 6th of February, being about three weeks from the accession of severe symptoms, she died.

Sectio cadaveris twenty-four hours post-mortem.—Body much emaciated; lungs crepitant, but containing many miliary tubercles in the upper lobes. Lower portion of œsophagus covered with a ragged layer of epithelium, similar to what had been observed on the tongue during life, and easily scraped off with the nail. Liver very large, of a light yellowish-brown colour. When cut, it greased the scalpel. The spleen was about three times its natural size. The kidneys about twice as large as usual, but apparently healthy, with the exception of one small tubercular spot in the substance of the left. The omentum was adherent to the margin of the pelvis on the right side; the transverse colon seemed to be drawn down by the adherent omentum; the cæcum and commencement of the colon were found extremely thickened by tubercular deposit in the walls, and the mesocolic and mesocæcal valves were similarly affected. The mucous membrane disappeared suddenly at the commencement of the diseased portion, and was no longer traceable to the point where the disease terminated in the lower end of the ilium, which was ulcerated to the extent of above a foot; the descending portion of the colon was contracted. The diseased portion was so friable that it could not be separated from its adhesions without tearing. The appendix vermiformis could not be detected in the mass of disease.

Mr. Toynbee exhibited a specimen of

Adhesion of the Membrana Tympani to the internal wall of the Tympanum.

The patient from whom the specimen was taken died in her 50th year. Upon examining the left ear, the membrana tympani was found to be white, like parchment, thick, and much more concave than natural: its internal surface is nearly in contact with the promontory to which the anterior part is attached, by a thick, firm band, measuring three-quarters of a line from above downwards, and a quarter of a line from within outwards. The posterior part of the membrana tympani is connected to the promontory by a band having nearly similar dimensions to the one above described. The internal surface of the long process of the malleus is in contact with the promontory. The tympanic cavity is not more than one-quarter its natural size.

Dr. Herbert Davies exhibited specimens of

Melanosis of the Liver, Pancreas, Kidneys, Ovaries, Eyeball, &c.

The female from whom these melanotic deposits were removed, was admitted into the London Hospital, January 30th, 1849, under the care of Dr. Little. Habit spare, temperament dark, and presenting the peculiar aspect of organic disease: her age is 34. She stated that she had suffered considerable pain in the right eye during the last three years, and had completely lost the sight of the eye for twelve months, and that with this exception her general health had been good, until four months previous to her admission into the hospital. The symptoms which she then presented, and from which she subsequently died on February 17th, were ascites, some degree of dyspnœa, considerable pain in the abdomen, and extreme debility. Her urine during the time she was under treatment averaged 1023 specific gravity, and presented a large deposit of lithates, and was rendered quite black by the action of heat and nitric acid.

Post-mortem examination. — The body was extremely emaciated; the superficial veins considerably enlarged and congested; the legs œdematous. Minute tumors were found scattered beneath the skin of the abdomen and thighs. The structure of the brain appeared healthy, with the exception of a few spots of black matter found dotting the floor of the lateral ventricles, while a number of small masses of the same kind were contained in the choroid plexus. The membranes were normal, excepting several patches of melanosis on the dura mater.

The lungs healthy and crepitant throughout, a number of black patches being disseminated, however, over the pleuræ costales and pulmonales. On opening the abdomen, the liver enlarged, and weighing 18 lbs., was found occupying a large portion of its cavity; the entire organ, with the exception of the lobulus quadratus, being one mass of melanotic disease, which gave to a section of the liver the appearance of dark granite: the consistence of the morbid portions was very soft, causing many parts to break down under the slightest pressure. The peritoneal covering of the stomach, intestines, and spleen, the substance of the pancreas, kidneys, and ovaries, were considerably infiltrated with melanotic matter, the ovaries particularly, being enlarged, and uniformly black from the presence of the deposit. A mass of melanotic matter, almost as large as one half the globe of the eye, was found lodged in the posterior part of the orbit, intimately connected with the sclerotic and conjunctival covering, and entirely surrounding the optic nerve. The thyroid gland, the muscles of the larynx and pharynx, and the mammary gland, were also found infiltrated with melanosis.

On microscopic examination, the black deposit was found to present the ordinary appearances of melanoid cancer—viz. encephaloid cancer cells, more or less filled with pigment granules. The cells were found in different degrees of colouration; some only partially filled with the dark pigment points, and others entirely opaque from their interiors being thoroughly filled with this matter. Other cells, of a roundish shape, nuclei and elementary granules, were found in great numbers, as well as the structureless substance which Rokitansky terms the membranous stroma. The appearance of the caudate pigment infiltrated cells appeared to bear out the view of that writer, that the pigment in these cases had been formed within the cancer cell, and that the colouration was not the effect of extravasated blood or of pigment granules, around which a cell covering had been developed. The absence of the disease in the lungs and the bronchial glands, is worthy of note. Lastly, the rapidity of the development of the mass of the liver in five months, while it characterises encephaloid disease, generally corroborates to a certain extent the view that melanosis is truly a modification of medullary carcinoma.

Dr. R. Quain presented, from Mr. Searle, a specimen of

Calcareous Deposit in, or Degeneration of, a considerable portion of the Liver.

Mrs. L., a stout, plethoric-looking woman, who had been of intemperate habits until about eight or ten years ago, passed some gall-stones about six years ago. Her last illness commenced in the middle of January, with acute pain in the right hypochondriac region, extending to that of the right kidney. She had severe and frequent vomiting: this recurred at intervals of one or two days, till the 10th of February, when they became more urgent. On the evening of the fourth day from this date she was seized with a convulsive action of the diaphragm, extending to the muscles of the face and arms. These convulsions occurred at intervals of five or ten seconds, the vomiting being at the same time urgent. In this state she continued until next night, when it was reported that she had had two or three fits of a severe character, and her tongue was much bitten. During the two following days the sickness continued, the ejected matter consisting chiefly of blood or bloody mucus. She became every hour more exhausted, and died on the 18th, retaining her consciousness until the last moment. There was no jaundice. She experienced no relief from any treatment.

Post-mortem, made twenty hours after death, under circumstances of considerable difficulty.—The stomach was empty, and its mucous coat seemed healthy. The right kidney was enlarged, contained a large abscess, and its pelvis was filled with a chalky substance, apparently phosphate of lime. The left kidney was healthy. In the liver was found imbedded, towards its upper surface, a hard mass, about four inches in length by three in depth. This mass was of an almost bony hardness: it was cut with difficulty; the cut surface had a coarse granular aspect. Some similar smaller masses existed in other parts of the liver.

The gall-bladder contained about six ounces of thin bile, and two large gall-stones. The rough surface of a section of the mass presented the appearance of closely aggregated calcareous granules, of a dirty whitish colour, with shining crystals on the surface, the granules being about the size of a pin's head: viewed with a pocket lens, each granular mass was seen to be surrounded by lines of a reddish colour, evidently composed of animal matter. A portion of the mass, when exposed to the flame of a spirit-lamp, emitted a yellowish flame, and became a charred mass, retaining its original shape, but readily crumbling into small fragments. Another portion of the same mass being placed in dilute nitric acid, a slight effervescence occurred, and after some hours it was found that the substance had become soft, but that its original form was still retained. Thin sections of the softened textures presented, when submitted to a microscopic examination, the appearance of a series of small spaces, composed of a granular tissue, surrounded by distinct boundaries, conveying the idea of the minute lobules of the liver surrounded by the portal canals. It was not possible to make out any definite structure in the objects: there were no hepatic cells. The conclusions arrived at from the examination were, that the deposit was composed of phosphate of lime, and that its principal seat was the lobules of the liver. The absence of any trace of tubercular matter, or of malignant disease, afforded grounds for believing that this deposit occurred as it was found, and that it was not the result of the transformation of crude tubercle, or of a malignant texture.

Inquiries which had been made by Mr. Searle led to the conclusion that this form of disease in the liver was of very rare occurrence.

Mr. Gray exhibited

Four Preparations of Enchondroma.

The first is a specimen of *peripheral fibrous enchondroma*, removed by Mr. Prescott Hewett, at St. George's Hospital, about a month ago. It was situated on the last phalanx of the great toe, was about the size of a chesnut, and presented a rough nodulated surface. On its upper part is a small orifice, through which small portions of calcareous matter are stated to have passed out. For the last few months it has caused her so much inconvenience and suffering as to render her extremely anxious to have the toe removed.

On examining the tumor immediately after the operation, it presented a nodulated surface, and its resistance to pressure was equal to cartilage; it did not appear vascular. On a longitudinal section being made through it, it was seen to arise from between the layers of the periosteum, on the dorsal surface of the bone, and was enclosed in a sheath, formed partly by an expansion of the periosteum itself. At the point of attachment of the tumor, the bone was considerably indented, from absorption caused by its pressure.

The section showed the tumor to be composed of a small quantity of cartilaginous substance enclosed in the areolæ formed by the interlacing bundles of fibrous tissue. Under the microscope, the fibrous element consisted of packets of white fibrous tissue, which were arranged, by their interlacement, into areolæ or spaces, in the meshes of which the cartilaginous element was imbedded. This latter structure was composed of elliptic or circular cells, larger, and more irregular in shape, than those found in true cartilage; they were filled with a finely-granular matter, and contained a small granular nucleus.

The greater proportion of fibrous tissue to the cartilaginous element in this tumor would approximate it very closely in structure to fibro-cartilage.

The second preparation is a specimen of *central enchondroma* connected with the first and second phalanges of the index finger, which was removed by Mr. Cæsar Hawkins several years ago. It occurred in a patient, a man aged 36, who stated that he first observed them fifteen years prior to his admission into the hospital.

The tumor connected with the first phalanx is about the size of a large walnut, and is seen to be growing from the interior of the shaft of this bone, which is partly expanded around it at both extremities; the upper part and sides being enclosed in the periosteal membrane, which is continuous with that covering the expanded bone. The other, which is connected with the second phalanx, also appears to be growing from the interior of the shaft of the bone, and is about the size of a horse-chesnut; the bone is also partially, though slightly, expanded around it, the principal portion of the tumor being contained in a dense fibrous capsule, formed chiefly by the periosteum. Both tumors are firm and elastic, like cartilage, and of similar density; they also, apparently, consist, like the latter, of two elements; but here the cartilaginous portions, not the fibrous, predominate. On a microscopic examination, it was seen to be chiefly composed of large circular or oval-shaped cells, very similar to those of articular cartilage, but of larger size, being about the $\frac{1}{500}$th of an inch in diameter. Their nuclei are small and composed of an aggregation of minute granules: in some cases they contain two nuclei. These cells are imbedded in a finely-granular intercellular matrix. The peculiarity in the structure of this tumor, as composed chiefly of cartilage cells contained in firm amorphous intercellular matrix, differs from the last, inasmuch as it approximates more closely to true cartilage, the former to fibro-cartilage.

The third, also a preparation of *central enchondroma*, was in nearly all respects similar to the last.

The fourth is also a preparation of *central enchondroma* occurring in the phalangeal bones, the shafts of the first two of which are converted into large cavities, which in some places present an areolar appearance, the meshes being filled with a soft white transparent substance. This appears to be most probably an advanced stage of the disease observed in the two preceding specimens.

ROYAL INSTITUTION.

March 9, 1849.

MR. B. C. BRODIE *on the Chemical Relations of Wax and Fat.*

The lecturer observed that there were chemical as well as animal fats, and that some of these are almost identical in properties. Among the fats shown were those from the cocoa-nut, the chocolate-nut, the palm, which contains a colouring matter the same as that of butter, the nutmeg, or mace, all of vegetable origin; also tallow and spermaceti, of animal origin.

Of one kind of fat, butter, the lecturer spoke more particularly. Milk, when mixed with alcohol, separates into a solid and fluid part. When filtered, the fluid part is transparent, and is almost wholly water: the solid part lying on the filter consists of various substances, especially a cream cheese, composed of butter and casein. 100 parts of milk contain 3 parts of butter, 5·1 of casein, and 4·6 of sugar of milk. Butter is composed of a solid and a fluid part: the solid part, margarine, may be separated into margaric acid, a beautiful crystallizable acid, and a sweet principle called glycerine.

Wax.—The cell of the bee is composed, as it were, of bricks of wax cemented together by an oil. Wax is an abundant product of nature, obtained from various sources. Chevreul showed the bloom on the plum and grape to be wax. It is also found in grasses, and in most plants. It is an interesting question whether bees derive wax, as well as honey, from plants, or whether they form it in their own bodies? The true source of wax is the honey on which the bee feeds. Dumas and Milne Edwards found that wax was produced by bees which were fed on sugar alone. The bee is not the only wax-producing insect. A substance like spermaceti is brought from China, which appears to be the product of a small insect of the size of a fly, which feeds on a plant like the privet.

Mr. Brodie then described the properties of alcohol and acetic acid, and their chemical resemblance to the fats.

Alcohol, when it burns, is converted into carbonic acid and water. By the slower action of oxygen it forms vinegar. By passing alcoholic vapour over finely divided platinum, it is converted into an acid (acetic acid), as was proved by its reddening litmus paper. From wax and alcohol, acids are produced having an analogous chemical composition. Acetic ether is a body chemically analogous to wax. The product of the distillation of wax is a hydro-carbon, a crystalline body; the product of the distillation of acetic ether is also a hydro-carbon, olefiant gas. Acetic ether is a volatile body, giving a flavour to wine. There is a volatile body also in all fats.

As to the physical nature of these bodies, wax and fat are similar, but alcohol itself, although apparently very unlike these, is probably nothing else than a very fluid wax or fat. Alcohol cannot be frozen, but under the combined influence of an intense cold (—198°) and pressure, it becomes viscid or oily, and looks like melted wax.

It is an interesting question, whether fat is absorbed into the system ready made. Casein passes into the system unaltered, but is it so with fat? Liebig and other chemists consider that sugar is the source whence the fats are produced in the animal system. By fermentation, sugar, it is well known, passes into carbonic acid and alcohol. Sugar has not yet been transformed into fat in the laboratory; but butyric acid, an acid contained in butter, has been obtained, by M. Pelouze, from sugar. Mr. Brodie concluded his interesting lecture by anticipating that, hereafter, chemists will probably succeed in making wax out of sugar.

Medical Trials and Inquests.

DEATH OF A CHILD FROM THE REFUSAL OF AN ORDER BY A RELIEVING OFFICER. ATELECTASIS AND HYPOSTATIC ENGORGEMENT OF THE LUNGS.

An important inquiry, in a medical point of view, as also in connection with the administration of the Poor-law, took place last week at Northend, Crayford, before C. J. Cartar, Esq., coroner, and a jury, into the death of a child, aged 14 weeks, the daughter of Henry and Sarah Nightin.

It appeared in evidence that the parents of the deceased were in distressed circumstances, and when the child was first taken ill they took it to Mr. Brown, surgeon, at Erith, and afterwards to Mr. Grantham, surgeon, at Crayford. Both of these gentlemen prescribed for the infant, and gave their advice gratuitously. When last seen, on the Friday before its death, by Mr. Grantham, he blamed the mother for bringing it from home, and told her that it was a case requiring the Poor-law union surgeon, and directed her to apply to the relieving officer for an order for his attendance, as he, Mr. Grantham, could not undertake the case any further. The mother applied to Mr. Levens, the relieving officer at Crayford, for an order upon Mr. Cottingham, the surgeon, stating what had transpired; he positively refused to give one, saying that he was not allowed by the guardians to do so, and that, as the child had already had two doctors, there was no occasion for a third.

The child was therefore not visited by any medical man after the Friday to the time of its death, on the following Wednesday. The circumstances having created great dissatisfaction by the refusal to grant the order, the coroner adjourned the inquiry for the attendance of the relieving officer, and in order that the body might be examined to ascertain the true cause of death. At the adjourned inquest, Mr. Levens was in attendance; and Mr. John Hayward, the solicitor and clerk to the board of guardians of the Dartford union, attended to watch the case on their behalf.

After the above statement had been given in evidence, Mr. John Grantham, of Crayford, surgeon, was called, and deposed:—The deceased was brought to my surgery about eight days before its death. I prescribed for it gratuitously. It was brought again on the Friday following: I then blamed the mother for bringing it out; directed her to take it home, and apply for the parish doctor, as it was a pauper case, and I declined to attend it. After its death the mother applied to me for a certificate, and I then heard the relieving officer had refused to give the order, and that the child had not been seen at all. I heve made a *post-mortem* examination since the jury last met, and found on removing the skull cap that the *dura mater*, near to the longitudinal *sinus*, was inflamed, the hemispheres of the brain were flattened, the substance of the *cerebrum* was injected and softened, and the ventricles were filled with a clear transparent fluid, extending into the spinal canal, probably from the quantity of fluid which escaped from the ventricles. On opening the chest, the upper parts of the right and left lungs were healthy; but from the lower lobes exhibiting a brownish, red appearance, I was led to conclude much inflammatory action had been going on in the inferior lobes of the lungs: however, on closer and minute investigation, I found much of the appearance had arisen from *hypostasis*, or deposition of the blood, and the remaining redness to be the result of a disease termed *atelectasis*, or imperfect expansion of the lung by the first inspiration, after birth, inducing a cohesion of the air-cells of the lungs in lobular patches.

By the Coroner—Explain first in reference to the diseased appearance of the lungs.

Witness—The brownish-red colour I spoke of arose from two causes,—*atelectasis* and *hypostasis*. The former disease, which was confined to a few of the lobules, consists only in the imperfect expansion of the lungs by the first inspirations after birth; that is, in a permanence of the fœtal state in the lung of the new-born infant. It is to be regarded as a disease dependent upon restricted functional development at the time of birth, and not upon any original defect of formation in the respiratory organs. Experience shows that certain portions of the lungs are especially prone to retain the fœtal condition—namely, the inferior lobes of both lungs, and the posterior half of the remaining lobes generally, as I found in this case. Inflammation is neither necessarily nor even frequently the sequel of *atelectasis*.

By the Coroner—As to the other appearances?

Witness—They are to be attributed to the second disease, *hypostasis*, or deposition of blood in the structure of the lung. The softening of the brain, and the quantity of blood found in the ventricles of the brain, I am of opinion was congenital; that is, the disease existed previously to the birth of the child. I believe the primary cause of death to have arisen from congenital *hydrocephalus*, extending to the spinal cord, partially intercepting the nerves of organic life pertaining to the lungs. Imperfect expansion of the lung is a secondary condition, and I am of opinion that no means of whatever kind could have saved the life of the deceased, as the causes were necessarily fatal.

The coroner, addressing the jury, said, that after this evidence,—the death of the deceased being attributable to natural diseases, over which no medical treatment prior to death could have been of any avail,—no responsibility could legally rest upon the relieving officer, although morally he ought not to have refused the order; and an explanation of why he had refused it would be satisfactory.

Mr. Levens said, that as two doctors had attended he did not consider the case required a third, and the parents having only *one* child he did not consider it a parish case!

The coroner reprimanded Mr. Levens for the view he took of the case, and cautioned him as to his future conduct.

The jury returned a verdict of "Death from natural causes."

Correspondence.

MR. DAWSON AND THE EDITORS OF THE MEDICAL DIRECTORY.

THE editors of the *London and Provincial Medical Directory* present their compliments to the editor of the MEDICAL GAZETTE. Their attention having been drawn to a pamphlet entitled, "The London and Provincial Medical Directory Unmasked," they beg to state that it is true Dr. Tyler Smith was one of the originators of the *Medical Directory*, in 1846, and took part in the compilation of the volume for that year; but on the 10th of April, 1845, he disposed of his share in the work, and since that time has never in the slightest degree interferred with, or been concerned in, the production of the volumes of the *Directory* for 1846, 1847, 1848, and 1849.

The omission in the *Directory* for 1849, of which Mr. Dawson complains, arose solely from the desire of the editors to be correct. As his return was not found to correspond with the list of the College of Physicians, a letter was addressed to the Registrar, inquiring into the matter. The reply of Mr. Sedgwick, the Secretary to the College, is subjoined, and at once affords a vindication of the care of the editors to be as correct as possible, and gives, at the same time, the *true and only reason* for the omission of the qualification adverted to by Mr. Dawson.

11, Beaufort Buildings, Strand,
March 14, 1849.

(*Copy.*)

College of Physicians,
Nov. 15, 1848.

Mr. Sedgwick presents his compliments to the editors of the *Medical Directory*, and in answer to their note, addressed to the Registrar, begs to inform them that there is no such name either as Richard or Samuel Dawson on the College list.

There was, a few years since, a gentleman of the name of Richard Dawson, an *extra licentiate*, but his name *was struck off the list*.

Mr. Sedgwick thinks that the Richard and Samuel Dawson mentioned by the editors are *one and the same person*.

To the Editor of THE MEDICAL GAZETTE.

SIR,—In reference to a pamphlet which has been extensively circulated, and which contains the most unjust insinuations, I lose not a moment in writing to declare, so far from there being any collusion between Dr. Tyler Smith and myself, that we were, in consequence of family matters, upon which it is unnecessary to enter, on unfriendly terms from the beginning of 1846 till the commencement of 1848, the time within which the statements of Dawson refer to. During this period no communication of any kind whatever passed between us. I write this in justice to Dr. Tyler Smith and myself.—I am, sir,

Your obedient servant,
JAMES YEARSLEY.

Saville Row, March 13, 1849.

To the Editor of THE MEDICAL GAZETTE.

SIR,—A pamphlet has been sent to me, bearing the signature of "R. Dawson, M.D." in which a most unwarrantable use is made of my name in connection with that of Dr.

Tyler Smith. I beg to say, emphatically, that *in no one particular* is the statement which relates to myself and Dr. Smith *true*.

I am, sir,
Your obedient servant,
Wm. Harvey.

Soho Square, March 13, 1849.

⁂ But for the sake of vindicating the characters of respectable members of the profession, we should have taken no notice of this matter. No professional man can peruse Mr. Dawson's pamphlet, or the pilot-pamphlet which was some time since circulated by one of his patients, Mr. Teevan, B.A. &c., without at once perceiving the object for which they have been written. We commend these curiosities of medical literature to the notice of the Council of the Royal College of Surgeons, of which College Mr. Dawson professes to be a *Member!*

IODINE A TEST FOR PRUSSIC ACID.

Sir,—I shall feel much obliged if you will be so good as to allow me to make known, through your journal, a fact in relation to prussic acid, hitherto unobserved.

The fact to which I refer, consists in the property which the prussic acid possesses of discharging the colour of iodide of starch, or of preventing the formation of iodide of starch, when starch and iodine are separately added to solutions of prussic acid. I have, by the latter method of applying the iodine and starch, demonstrated the presence of prussic acid of Scheele's strength, when diluted in the proportion of one part of acid to 40,000 parts of water.—I remain, sir,

Your obedient servant,
Owen Daly, M.D.,
Lecturer on Materia Medica at the Hull and East Riding of York School.

25, Albion Street, Hull,
February 28, 1849.

[The subjoined letter from Mr. York, Dispenser at the Canterbury Hospital in 1839, will show that there is no novelty in this suggestion:—]

TEST FOR HYDROCYANIC ACID.

Sir,—I beg leave to present the following account of a new test for hydrocyanic acid: it was accidentally discovered by me whilst engaged in dispensing a mixture into which entered iodine, iodide of potassium, and hydrocyanic acid: upon adding the latter to the solution of the two former, I found that the mixture changed from a port wine to a greenish colour, and in a few seconds the solution became colourless as distilled water. So far as I have observed, there is only an apparent objection to the use of iodine as a test for hydrocyanic acid. Free ammonia, which is likely to be found in the contents of the stomach of a person suspected to have been poisoned by hydrocyanic acid, would, during the process of distillation, pass over into the receiver, and on applying the distilled product to the iodine test, the colour of the latter would be discharged, although no hydrocyanic acid might be present (potash produces the same effect; but I apprehend no error could arise from this source, because it is not volatile). Other experiments showed that if the ammonia be much diluted, as in the proportion of ♏x. Liq. Ammoniæ P. L. to Oj. of distilled water, it loses the before-mentioned property. I think it may be fairly stated, that a solution, diluted so as to affect turmeric paper slightly but distinctly, is incapable of discharging the colour from the following solution of iodine, which after many experiments I have found to be the most convenient:—

℞ Iodinii; Potassii Iodidi, aa. gr. j.; Aquæ Destillatæ, Oj. Fiat solutio.

The following experiment shows the delicacy of the iodine test for hydrocyanic acid. ♏j. of medicinal hydrocyanic acid being mixed with ℥ij. ♏xl. of distilled water (that is, in the proportion of 1 to 1000), the mixture will render ℥ij. of the above solution colourless, or, in other words, it will remove the colour from so much of the solution as contains the one-eighth of a grain of iodine.

It appears to me that in the above experiment the following changes take place: one portion of iodine unites with the hydrogen, and another with the cyanogen of the hydrocyanic acid; and that the compounds thus formed are soluble in water, and the solution colourless.

Mr. Battley, the chemist, who resides in Fore Street, was at the Hospital a few days since, and I repeated the experiment before him. He acknowledged the result as a new fact, and said it would prove valuable.—I remain, with great respect,

Yours, &c.
William York.

Canterbury Hospital,
1st June, 1839.

⁂ We believe that Mr. York abandoned the idea of employing this as a test of prussic acid, for the reason that sulphurous acid, hydrosulphuric acid, the sulphurets, hyposulphites, chlorine, bichloride of mercury, and all the alkalies produce a similar effect. It thus became necessary, before drawing an inference, to exclude so many other substances as to render this proposed method of testing prussic acid uncertain, and therefore unsafe.

CASE OF CHOLERA SUCCESSFULLY TREATED.

SIR,—If you deem the following case of sufficient interest to occupy a place in your useful journal, it is very much at your service.

Your obedient servant,
JOSEPH HODGSON.

Spital Square, March 2nd, 1849.

At midnight on the 16th of last month I was called to see Miss B., the daughter of a clergyman residing near this, and on reaching the house I saw a delicate girl, aged 19, of nervous temperament, lying on the sofa, and in whose countenance I instantly recognised the disease of 1832, which I then had ample opportunity of observing; the eyes were sunken in their orbits; the features pinched; skin ashy, together with the lips and tip of tongue cool; pulse at the wrist scarcely to be discovered; cramps in the abdomen and upper and lower extremities; frequent sickness; bowels acting very often, and the discharge was of the rice-water character, and the fishy odour so peculiar in these cases; not any secretion of urine; excessive thirst. To take two grains of opium immediately, with a small quantity of weak brandy and water. To take every hour a pill composed of Opium, gr. ¼; Pulv. Lyttæ, gr. ¼; Pil. Hyd. gr. j.; effervescing draughts with ammonia in excess very often; weak brandy and water cold at pleasure; a mustard and vinegar poultice to the epigastric region; constant friction over the body generally with a liniment of camphor, ammonia, and laudanum; surface of the skin to be kept warm by every available means.

17th, 7 o'clock A.M.—Reaction coming on; urine secreted.

12 o'clock noon.—Progressing; alvine discharges not so frequent, and are a little coloured; vomiting continues, but says it relieves her, and that she feels as if she was getting rid of the poison or cause of the complaint; pills retained, but the effervescing draughts not always. To continue the same remedies; but being tired of brandy and water, to substitute weak sherry and water, and, if possible, small quantities of good beef-tea.

Evening.—Decidedly improved; pulse 115; cramps no longer present; secretion of urine fully established; excretion from bowels less frequent and bilious; surface of body comfortably warm. To take the pills and draughts once in four hours; to gradually withdraw the stimuli, and to take beef-tea and milk.

18th, noon.—Slept tolerably well; pulse fallen to 95, with more volume; tongue getting clean; less thirst; bowels quiet. To take Mist. Salin. 4tis horis, and, should the bowels be not moved by the morning, to take a gentle warm rhubarb draught. To be brief, this person rapidly recovered, and walked out with her father for a short distance on the 27th, but as she has a chlorotic aspect, and has been the subject of hysteria, I have directed her to take Mist. Ferri for some little time.

REMARKS.—Had the Pulv. Lyttæ any share in restoring the renal secretion? I am not aware that it has ever been given in similar cases. I certainly shall have recourse to it again. I am neither a contagionist nor anti-contagionist, but I cannot but think with you, sir, that we must have evidence of a very different character to that which has been adduced before we can be quite sure that under no circumstances is the disease communicable from one person to another. As to what I read about the cholera, with the exception of Dr. Chambers's excellent remarks, which you are now publishing, I really am "theory sick," and I do sincerely hope my professional brethren will for the present give us nothing but simple facts as they occur, and then we shall have something to reason upon.

THE APPLICATION OF ATMOSPHERIC PRESSURE TO AID DELIVERY.

SIR,—I happened to see yesterday (in your number for Feb. 9th) the following notice:—"A Substitute for the Midwifery Forceps."

We understand that Professor Simpson has invented an apparatus on the principle of the vacuum-making organs of the cuttle-fish, which it is proposed so to attach to the presenting scalp of the child, as to render the introduction of the forceps unnecessary. A discussion was fixed to take place on the 7th instant.

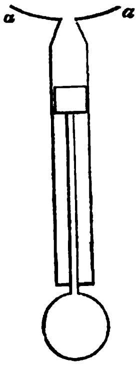
Now it happens, singularly enough, that on the 26th of last January I entered the following case and observations in my case-book:—

"Mrs. S. P.—*Parturition natural; primipara.*—Ill 3 P.M. January 25th; child born a quarter before eleven, January 26th.

"The placenta was immediately thrown off, but although there were continued pains, and it lay at the os externum, it could not be expelled until I gave a little assistance by traction, which at once gave increased energy to the pains, and it was expelled with force. This phenomenon I have repeatedly witnessed, that when the contractions of the uterus are unavailing, as in cross presentations in laborious labours, with difficulty in the placenta being retained by contraction of the os internum or externum, if such additional force is given as will give the uterus the *consciousness of ability*, its actions will immediately increase.

"Upon this fact I found another opinion—namely, that if in any case of difficulty a *little* additional assistance could be given, not involving the well-being of the mother or child by such instrument as forceps, the natural pains, plus the artificial assistance, would often suffice.

"Now a mode of accomplishing this would be as follows. Have a narrow but close syringe tube, with a well adapted piston, as for a stomach pump; let the termination *a a*, be introduced into the vagina, and applied to the child's head; let the piston then be withdrawn, so as to create a vacuum, and fix it to the child's head with more or less force, as might be expedient, and then by a turn quarter round, as in the stomach pump, fix it; it would then be converted into a tractor, and the large bow handle would enable the accoucheur to apply a considerable amount of force assisted by each pain."*



It will probably appear that the principle which Professor Simpson and myself have suggested is the same, and each independently of the other. I may perhaps be excused for stating this, not with the slightest intention of lessening Professor Simpson's credit to the discovery of this method of treatment, nor merely with the view of placing my own claims on record, but rather to set forth the mode of reasoning which led me to it, possessing, perhaps, some interest in regard to its general bearing on pathology. It arose, then, out of the consideration of another principle, true, as I believe, not only in this its application to obstetric practice, but also to general pathology. Before, however, I state what I apprehend this to be, I will offer a few remarks on the probable benefits which I apprehend may result from the mode of traction now proposed in cases of difficult delivery.

1st.—It would be applicable in cases of disproportion with safety before the ear can be felt, and consequently before the short forceps could be employed.

2nd.—It would be applicable in very numerous cases, where we now hesitate to employ them, *i. e.* where there is no disproportion between the head and the pelvis, but simply where from other obstacles, or defective uterine action, the labour has become long, exhausting, and consequently dangerous; and I may perhaps be warranted in believing that in such cases it would be employed many times where the forceps are either *not* employed, or with great reluctance.

3rd.—In cases of disproportion, where the head is too high for the ear to be felt, this mode of traction, although not sufficient possibly to deliver, might still suffice to bring the head of the child within the reach of the short forceps,—a great point gained in many cases.

I am aware that there may be objections to the application of this mode of traction,—that it may be impossible to adjust it, and that it may be injurious to the child; and I had not intended to make any mention of the plan till further consideration, and some opportunity of employing it, might justify me in so doing. The public announcement, however, of Professor Simpson's views, in a similar direction, are a sufficient warrant for the belief that the plan is not a visionary one; and however limited my own experience has been in this department of practice, it will not be deemed superfluous to offer these suggestions in a matter which may have very important bearings upon the most difficult points of our profession. I will say no more at present on the subject of this mode of traction, or the best way of effecting it, but revert to the principle already briefly alluded to, in the case above narrated, and which has long attracted my attention, although no phenomena evince its truth more forcibly than these; and I am not aware that it has been insisted on by others, at all events in any definite manner.

I may repeat that we continually see instances where the uterus seems, after great efforts, to have already abandoned, as if in despair, any further attempt to expel its contents: we suppose that it is exhausted; but it is very often no such thing;—if the case be one of disproportion, and we employ either forceps or crotchet, and the uterus feels that its efforts *will* be assisted, they are renewed. I do not believe that it is from the stimulus of the forceps, for the uterus rarely begins to contract powerfully till we begin to pull. In the use of the crotchet (the instrument being employed internally to the child), it cannot be, yet here the uterus again begins to act, when the additional force gives it a consciousness of power to expel. It is just like a willing horse with an overload, who will struggle till he finds further effort unavailable; but if the driver puts his shoulder to the wheel, he will again try his best. In turning, the same thing happens. Furthermore, in extraction of the placenta the uterus will be often quite or nearly quiet, while we separate an adhering placenta, which it would not turn off; but when it feels the hand grasping the placenta and bringing it down, it rarely happens that strong pains do not expel both hand and afterbirth together. Again, the placenta is often thrown into the vagina, and there remains, as in the case stated. The os externum begins to close, and opposes a greater obstacle to the passage of the placenta than the uterus brings to the work of expulsion: in this case, moderate traction on the cord, as in the case I have briefly stated, *renews* the efforts of the uterus, because it feels that it *can* expel it with *this* assistance; and here I must remark, that however proper it undoubtedly is to allow the secundines to be expelled in the horizontal position on the side, it may be doubted whether it is that which the woman would assume if left to herself; and the expulsion in some cases will not so take place unless assisted: if, therefore, it be demanded *why* the efforts of *nature* should require aid in expelling the placenta, the answer is, that the course pursued has been *arbitrarily* adopted.

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* I have quoted the case verbatim, as entered in my case-book, and hastily so entered, as I had no intention of acting upon it immediately.

But although these examples in obstetric practice serve well to illustrate the principle, I believe it may be extended to every other abnormal state of the system. Why do people die in many instances when neither hæmorrhage, fever, nor exhaustion, occasion death? The strongest illustration of this I can produce is in the phenomena which ensue after fracture of the cervical vertebræ. It is true that the muscular apparatus of the animal life is mostly paralysed, but the functions of the organic life may be continued, and the brain is apparently unaffected. The mind shall be clear, the respiration efficient, the pulse not much otherwise than natural, food be taken and digested, everything going on with little disturbance, till almost suddenly a change takes place, and the patient ceases to live, commonly on the third day.

If these remarks have sufficient interest, I beg to offer them to you.—I remain,

Your most obedient servant,

F. H. James.

Exeter, Feb. 27, 1849.

THE OBSTETRIC AIR-TRACTOR.

[We make the following extract from a communication forwarded to us by Dr. Simpson, in reference to his ingenious invention of the Obstetric Air-tractor. It will be seen, from a letter which precedes, that the idea of employing atmospheric pressure had occurred to Mr. James, of Exeter; but, as that gentleman admits, the merit of the discovery, and its application to practical purposes, rest with Dr. Simpson.* His letter will be found to confirm Dr. Simpson's anticipations respecting the utility of this instrument in obstetric practice.]

If we could fix upon the *exposed* portion of the fœtal scalp, the suctorial disc of a limpet or cuttle-fish with the usual force with which they adhere to the sea rocks, to which they are attached, we should have in many cases a power sufficient to enable us to apply by them the necessary amount of extractive force. The discs of the limpet and of the cuttle-fish attach themselves firmly to the surfaces to which they adhere, by being formed so as to act upon the principle of the common sucker used by the schoolboy to lift stones, &c.—viz. by removing, or rarefying as far as possible, the air placed between the attaching and attached body, and thus taking advantage of the great power exercised by pressure of the atmosphere upon the surfaces of solids. This pressure is, as is well known to all, equal to nearly fifteen pounds upon the square inch when the subjacent vacuum is perfect; or, in other words, it would require a force equal to fifteen pounds of every square inch attached, to effect the separation of surfaces thus united. The limpet and cuttle-fish have the surface of the acetabula or discs with which they fix themselves so strongly upon the rocks, bedewed with a thick mucous secretion; after placing the surface of the disc upon the part to which they are to attach themselves, they, by a muscular movement, raise the centre of the disc so as to produce a more or less perfect vacuum; and the cuttle-fish has a central body in the middle of each disc, which it draws up and uses for this purpose, exactly on the principle of the piston of a syringe.

Such an arrangement and apparatus may be imitated by art; and, when rendered more perfect and complete, may perhaps give us a simpler and safer obstetric power for some cases than even the forceps. In one protracted case which Dr. Simpson described, he had lately made use of this power to extract the child. When applied, the head was still high up in the pelvic cavity, and the instrument easily afforded such a hold of the head as to allow it to be slowly dragged forwards and extracted. During this extraction the instrument required to be reapplied once or twice. Dr. Duncan and Mr. Dickson were present at the delivery.

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* We have since received a letter from Dr. Mitchell, in which the writer claims a priority of the discovery. This will be inserted next week. —Ed. Gaz.

The instrument used in this case was very rude and imperfect. It consisted of a common metallic vaginal speculum, fitted with a piston, and with the edge of the trumpet-shaped concave disc at its outer or broader end covered with leather. This broader and leathered end was coated with lard, and applied to the head of the child; and then an exhausting effect was produced by moving the piston forwards. The apparatus would admit of much improvement and simplification, as by the mouth of it being made expansible, and capable of altering in shape, instead of metallic and fixed; by the inner edge of it being coated, as in atmospheric railways, by a thin layer or cushion of air inclosed in caoutchouc; by the exhausting apparatus being valved and more perfect, &c. &c.[*] But if the Air-tractor could not be made both simple and satisfactory in its application, it would not replace the forceps, and more experience would be required to decide whether it had any title to do so.

If the instrument, when properly constructed, should be found to succeed, it would be still more advantageous in replacing the long, than in replacing the short forceps. In the case in which it was used, the head was of the height in which long forceps are usually required. If a suctorial tractor should answer in some long forceps cases, and enable us to drag with sufficient force upon the exposed portion of the scalp, it would save the danger dreaded by many, of wounding the uterus by introducing and working the blades of so long an instrument as the long forceps high up in the neck and cavity of the uterus itself.

Presentations of the breech sometimes require instrumental assistance. The hook passed over the flexure of the thigh is dangerous, and very apt to injure. The forceps, as recommended in these presentations by some authorities, are often inapplicable and inefficient. Perhaps the Air-tractor may afford us a new and sufficient instrumental force for the management of some of these cases. Its use would be simpler and safer than any of the other methods proposed.

Dr. Simpson further observed, that he was not aware that any one had applied practically this obstetric means, before it was employed in the case detailed to the Society. But the idea of using such a power had been long ago proposed by a gentleman, for whose works and talents they all entertained the utmost respect,—Dr. Arnott, of London. In his admirable work on Physics (p. 636), Dr. Arnott alludes to the subject in the following words:—"The forceps (says he) to be well and safely used, requires address, which even the naturally dexterous man cannot possess without a degree of continued practical familiarity with it; and, except in large towns, a man must be unfortunate in his practice who often requires it: hence the really small number of persons who use it well. A tractor of three inches in diameter would act upon any body, to lift or draw it, with a force of about a hundred pounds—with more, therefore, than is ever required or allowable in obstetric practice. In lifting a stone, the tractor does not act as if it were glued or nailed to the stone, but merely bears or takes off the atmospheric pressure from one part, and allows the pressure on the opposite side, not then counterbalanced, to push the stone in the direction of the tractor; so when placed upon the child's head, it would not pull by the skin, in the manner of a very strong adhesive plaster applied there, as uninformed persons would be apt to suppose; but by taking off a certain atmospheric pressure on the other side or behind to urge the head forward on its way. Of course the pressure in such a case would not operate on the head directly, but through the intervening parietes and contents of the abdomen. It would be preferable to have a gentle and diffused action of the tractor over a large space, rather than an intense action on a small space; and therefore a tractor for the purpose now contemplated should not be very small, and should have a little air underneath it in a slight depression or cavity at its centre.' The forceps must be more effective than the tractor for rectifying malposition of the head, and diminishing its transverse diameter; but the tractor will answer both these purposes in a greater degree than might at first be expected.

In conclusion, Dr. Simpson stated that he had now used the Air-tractor which he had constructed in several cases of labour, and with results answering his best expectations. But it doubtlessly admitted of much further improvement in construction, in mode of application, in working, and other details.—*Proceedings of Edinburgh Obstetric Society*, 20th December, 1848.

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[*] Since the preceding abstract was drawn up, I have made a great variety of experiments, with the view of ascertaining the best form of disc or mouthpiece and exhauster. I find that a syringe and piston, valved like the common breast-pump, so as to make a perfect vacuum, and having a disc attached to it formed of a double cup, the outer cup of caoutchouc, and overlapping considerably the edges of an inner and smaller cup of metal or gutta-percha, makes an Air-tractor possessed apparently of the necessary applicability, and requisite adhesive and extractive power.—J. Y. S.

Medical Intelligence.

PROGRESS OF THE CHOLERA.

The cases and deaths up to the 13th inst. are as follows:—

	Cases.	Deaths.
London	1176	606
Provinces	1023	446
Scotland	11,873	5159
	14,072	6211

In the metropolis the disease is rapidly declining.

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 8th March, 1849.—Francis Fawcett Welsh, Saffron Walden, Essex—Henry Payne Leech, Bury St. Edmunds—Frederick Oughton, Camberwell—Frederick Montgomerie Davenport Davidson, Dawlish, Devon—William Henry Johnson, Weymouth, Devon.

POISONING BY MUSHROOMS (AGARICUS VERRUCOSUS).

Several fatal accidents have lately occurred in France, in the neighbourhood of Tours, from the *agaricus verrucosus* having been mistaken for the common edible mushroom (*agaricus campestris*).—To prevent mistakes of this kind in future, it is proposed that some properly qualified person should be appointed to examine all mushrooms taken into the market-place for sale.

OBITUARY.

ANTHONY WHITE, ESQ.

We have this week to record the death of Mr. Anthony White, which took place at his residence in Parliament Street, on the 9th inst. Mr. White was of a north country family, and was a graduate of the University of Cambridge, where he took an honourable degree. He came to London at an early period, and commenced practice as an assistant surgeon at the Westminster Hospital, with which institution to the day of his death he continued to be associated. Mr. White speedily obtained celebrity for the dexterity and success of his operations, in the most difficult cases in which surgical skill is required. He acquired, at an earlier period than is usual in his profession, a very extensive practice, and was not long in obtaining the recognition of eminence by election to a place in the Council of the College of Surgeons. Mr. A. White twice succeeded to the presidential chair of that institution, and was highly valued as a member of the Court of Examiners. In consequence of repeated attacks of gout, which specially affected his hands, Mr. White was necessitated some years since to relinquish active practice as an operator; but he continued up to a very recent date to give the public the benefit of his experience as a consulting surgeon. His death creates no vacancy in the Council of the College, as he was an honorary retired member of that body. His contributions to medical literature were, we believe, few. He lately published, in the pages of this journal, an essay on the Proximate Cause of Gout, and its treatment.

R. R. PENNINGTON, ESQ.

This gentleman died at his residence in Portman Square, on the 8th inst., in the 84th year of his age. He was one of the oldest members of the College of Surgeons, his diploma being dated in 1787. His loss will be regretted by the large and respectable body of general practitioners, whose interests he strongly advocated.

Selections from Journals.

NEW INSTRUMENT FOR DIVIDING STRICTURES OF THE URETHRA.

M. Civiale announced at the sitting of the Academie des Sciences, December 26th, 1848, that he had invented a new instrument for the division of indurated strictures of the urethra. The principle of the improvement consists in the division of the stricture from behind forwards, instead of cutting in the reverse direction, as hitherto practised by surgeons. The new instrument, according to M. Civiale, has the advantage over the old method in the fact, that the extent of the incision can be precisely ascertained and controlled by the operator, and a division of all the tissues can be performed with safety.—*Comptes Rendus*, No. 26, 1848. X

TREATMENT OF GONORRHŒA, ETC., BY VINUM COLCHICI.

Dr. Ficinus, of Dresden, confirms the opinion formed by Eisenmann, of the value of vinum colchici in gonorrhœa. He gives from twenty-five to thirty drops three times a day, combined with Tinct. Opii, enjoining at the same time a low diet, warm bath, &c. These means he has found attended with unprecedented success in the treatment of gonorrhœa and other inflammatory discharges from the urethra in males, and from the vagina and uterus in females. The details of ten cases are given in illustration.—*Casper's Wochenschrift*, Aug. 26, 1848.

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ON THE ALKALOIDS OF VEGETABLES.

BY M. LEBOURDAIS.

An opinion has been expressed by some chemists that the alkaloids which have been said to bestow upon various plants their active properties, have not been procured from them in their pre-existing form, but that the so-called principles were products of the chemical processes required for their separation. M. Lebourdais has, however, ascertained, by direct experiment, that he could separate, by the aid of animal or vegetable charcoal alone, the following principles, and he has thereby demonstrated their pre-existence in the respective plants—Digitaline, Illicine, Scillitine, Arnicine, Columbine, Colocynthine, Strychnine, Hyoscamine, Cicutine, Morphine, Narcotine, and Quinine.

The editor of the journal appends a note to the observations of M. Lebourdais, in which he points out that the principle therein stated was previously made known by M. Chevallier in 1826, by M. Rhigini in 1843; M. Chevallier again, in the Journal de Chim. Méd., 1846, and by MM. Warrington and Garrod, id. 1846.—*Journal de Chimie Médicale*, Jan. 1849.

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⁂ The hypothesis of the alkaloids being products, and not educts, hardly required disproof. There is no novelty in M. Lebourdais's suggestion; and we insert this extract chiefly for the purpose of showing that some experimentalists are always engaged in discovering what others have already discovered before them.

NEW ALKALOID—PSEUDO-QUININE.

M. Meorgardique, while analysing some cinchona, the source and exact nature of which he could not ascertain, discovered a new alkaloid, which he has named Pseudoquinine. It is a substance of a deep reddish brown colour, very bitter, sparingly soluble in water, soluble in acids, with which it forms salts, not giving the slightest trace of quinine or of cinchonine. Treated with cold ether, a whitish powder is obtained—the pure alkaloid. On platina it burns entirely away with a blue flame. It is soluble in alcohol, from which it is precipitated by water: it is insoluble in ether. Its elementary analysis gives — carbon, 76·5; hydrogen, 8·1; nitrogen, 13·2; oxygen, 5·2.—*Journal de Chimie Médicale*, Jan. 1849.

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GUN-SHOT WOUND OF THE CHEST.

Lawrence Naulty was brought into the hospital, 9 mo., 9th, 1846, having been accidentally shot by the discharge of a fowling-piece within a few feet of his body. The charge entered back of the point of the left scapula, and came out by a more extended opening in the neighbourhood of the fourth rib, nearly three inches back of the nipple, being thus on the anterior of the axilla. He was said to have expectorated blood before being brought there; but no air could be perceived to pass through the opening. The pulse and skin showed great tendency to collapse. He complained of violent pain. The wounds being dressed with lint, he was put under the influence of morphia, which, however, did not give sleep or stop his groaning till the next night.

The prostration and irritation were such as to make necessary the use of a catheter for several days. Hæmorrhage at the time of the injury may in part account for his weakness.

11th.—Considerably less pain, and countenance better. Reaction has occurred. This afternoon the wounds were dressed; the edges were already beginning to slough. The warm-water dressing was used, *i. e.* a piece of patent lint doubled, wet with warm water, and covered with oiled silk, retained in place by strips of adhesive plaster.

It is needless to go into detail farther than to state that the case ended in complete recovery, the principal delay resulting from the necrosis of large portions of the wounded scapula. The beautiful and complete adaptation to such a case of the water-dressing as above described, which was continued for many weeks, is the principal matter of note.—*American Journal of Medical Sciences* for January, p. 48-49.

REMEDY FOR BALDNESS.

As a remedy for baldness which follows herpes or pityriasis, Dr. Neligan recommends the following pomade, from which he has found great benefit. Prepared lard, two ounces; white wax, two drachms; melt together, remove from the fire, and when the mixture is beginning to thicken, add, with constant stirring, balsam of tolu, two fluid drachms, and oil of rosemary, twenty minims. In very chronic cases, or where the baldness has long existed, a drachm of tincture of cantharides may be added.—*Eruptions of the Scalp.*

BOOKS & PERIODICALS RECEIVED

FOR REVIEW.

Operation for Artificial Anus. By J. M. Warren, M.D. Surgeon to the Massachusets Hospital, &c.

Surgical Anatomy. By Joseph Maclise. Fasciculus 2.

Report of the Birmingham and Midland Counties' Pathological Society, 1849.

Journal of Public Health. March, 1849.

London University Calendar, 1849, 2d edit.

Homologies of the Human Skeleton. By H. Cooke.

Ligature of the Left Subclavian Artery. By J. M. Warren, M.D. V.S.

Lectures on the Study of Chemistry and Discourses on Agriculture. By John Davy, M.D. F.R.S. &c.

On the Dependence of Animal Motion on the Laws of Gravity. By H. Wiglesworth, M.B. Lond. Part 2.

The London Journal of Medicine. No. 3, March, 1849.

The Hunterian Oration delivered before the Royal College of Surgeons of England on the 14th of February, 1849, by Cæsar H. Hawkins, Surgeon to St. George's Hospital.

Mémoire sur les Faits relatifs à la Révocation de M. Bouillaud, &c.

Elements of Electro-Biology. By Alfred Smee, F.R.S.

L'Urétrotomie. Par le Docteur Civiale.

A Brief Sketch of the Hounslow Inquest, &c. By H. G. Day, Surgeon.

La Presse Médicale. No. II. Bruxelles.

Oesterreichische medicinische Wochenschrift. Nos. 36 to 40.

Medicinische Jahrbücher. Septemb. 1848.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 30·09
" " " Thermometer^{a} ...... 43°
Self-registering do.^{b} .... Max. 74° Min. 21°

^{a} From 12 observations daily. ^{b} Sun.

RAIN, in inches, 0·12.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 0·9° below the mean of the month.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Mar. 10.

BIRTHS.		DEATHS.		*Av. of 5 Wks.*	
Males....	821	Males....	531	Males....	592
Females..	723	Females..	516	Females..	577
	1544		1047		1169

CAUSES OF DEATH.		*Av. of 5 Wks.*
ALL CAUSES	1047	1169
SPECIFIED CAUSES	1040	1164
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* ..	243	221
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	45	54
3. Brain, Spinal Marrow, Nerves, and Senses	104	141
4. Heart and Bloodvessels	25	40
5. Lungs, and other Organs of Respiration	223	243
6. Stomach, Liver, and other Organs of Digestion	62	67
7. Diseases of the Kidneys, &c...	15	13
8. Childbirth, Diseases of the Uterus, &c.	5	9
9. Rheumatism, Diseases of the Bones, Joints, &c.	4	7
10. Skin	2	
11. Old Age.....	39	73
12. Sudden deaths	10	14
13. Violence, Privation, Cold, &c.	37	37

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	13	Convulsions	38
Measles	9	Bronchitis	85
Scarlatina	43	Pneumonia	89
Hooping-cough ..	69	Phthisis	121
Diarrhœa	18	Dis. of Lungs, &c..	7
Cholera	15	Teething	9
Typhus	42		
Dropsy	16	Dis. of Stomach, &c.	8
		" Liver, &c...	8
Hydrocephalus....	28		
Apoplexy..........	21	Childbirth	2
Paralysis	15	Uterus............	0

REMARKS.—The total number of deaths was 122 *below* the weekly winter average. Those from cholera were only 15, and there is a considerable decrease in the fatality of all the zymotic diseases. The deaths from this class are now but very little above the average.

NOTICES TO CORRESPONDENTS.

We shall have great pleasure in giving insertion to Dr. E. A. Parkes's communication.

Will our Paris correspondent oblige us by writing "Paris Academy" on the envelopes of his letters?

Dr. Davies's letter on the case of the Midland Railway Company has been received.

RECEIVED.—Dr. Mitchell.

THE GENERAL INDEX.

We have to announce to our Subscribers that a GENERAL INDEX to the *first* 40 *Volumes* of the LONDON MEDICAL GAZETTE will, it is calculated, form a large Volume of about 700 pages. The cost of the INDEX VOLUME, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. WILSON AND OGILVY, 57, Skinner Street, will receive the Names of Subscribers.

Lectures.

CLINICAL LECTURE ON CONCUSSION OF THE BRAIN.

By John Adams, Esq.
Surgeon to the London Hospital.

Gentlemen,—Before I commence the subject of concussion of the brain, I wish to make a few observations on the taking of cases. I know nothing of higher importance for you to attend to, whilst pursuing your studies in surgery at a hospital, than a careful record of cases which are brought under your notice: and I much regret that this part of a student's duty is so frequently altogether omitted. It may be asked, What advantage is gained by taking cases? and to this I now beg to direct your attention: a case carefully taken affords a record or history of a series of symptoms appertaining to an individual labouring under disease or accident, and includes not merely his condition under the circumstances of his disease, but also his previous history, as near as it can be obtained. This has a most important bearing on the application of means to cure. In the taking of a case, therefore, your first object should be to note down the symptoms as they present themselves; after which you are to endeavour to obtain a history of the previous condition, as without this you may occasionally be led into most serious error: thus, a patient is brought into the hospital, having met with an accident; you observe a distortion of the hip-joint—in fact, you perceive a dislocation of the hip: you perhaps might conclude that his hip was dislocated by the accident, but on inquiry you find that the patient had been lame for many years from some previous disease. Instead, therefore, of attempting the reduction of the limb, you leave this part alone, and direct your attention to his other injuries. I can mention to you cases bearing on this subject: thus, a man was brought into this hospital, many years ago, with a fatal injury to the skull; on examining the body after death, the surgeon discovered a dislocated shoulder; he was inclined to attach some blame to himself for not having detected and reduced the injury during life, but on dissection it appeared that the dislocation was of long standing, and could not have been reduced; and thus the patient was saved from any painful and futile efforts at reduction.

In the investigation of a case it is necessary to examine the symptoms both individually and collectively: individually, that you may be enabled to ascertain with accuracy the changes induced by the disease or accident on any organ or set of organs; collectively, that you may not attach undue importance to any individual symptom. Now, in the case I shall presently detail to you, there was one symptom present not commonly found in concussion, to which rather more than its due importance was attached when the patient was first seen—I mean *furious delirium*. I will not, however, go the length of asserting that this is not a most important sign in concussion; but when I examined the patient, and regarded all the other signs collectively, I stated it as my opinion that in all probability the delirium would soon pass away, and the ordinary signs of concussion would remain; and this has been exactly the case. Not that you are to neglect any symptom, however trivial it may appear, as it may in the progress of the case be found to bear some important relation to other signs. Having taken a comprehensive view of the features of a case, you then form your own judgment of its nature; and in doing so you may still have a difficulty in reconciling all its characters—you may find something unaccountable still; you therefore watch the case with more close attention, and probably, in the progress of the disease, a satisfactory clue in explanation will become developed.

I venture to offer these few observations to your notice, being convinced of their very great importance to you. Having collected a number of cases, and carefully arranged them, you begin to deduce general principles from them, and this leads you to the adoption of a successful and easy method of practice. By this you attain a large amount of real and serviceable experience; in fact, you become, whilst young men, to all intents and purposes, experienced practitioners, and fit to cope with any accidents that may present themselves to your notice.

I hold in my hand a record of the accidents admitted into this hospital during the last year, and I find that they amount to no less than nine thousand and sixteen,—a prodigious number, you will readily grant; among these there are forty-five cases of concussion. Now, if a careful record of the symptoms, progress, and result of these numerous accidents had been made, I think I am justified in saying that a vast mass of most useful information might have been accumulated, and in many instances important general rules of practice might have been deduced. Even amongst the cases of concussion many must have presented themselves with features of high interest, and which probably, if carefully recorded, would tend to establish some definite notions as to the nature of this important affection.

In the examination of cases, you should

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endeavour to pass in review, almost at a glance, all the principal symptoms of the body, and carefully collate all that may be observed in them, so that by comparison of one symptom with another you may be enabled to show their mutual dependence, and thus be led to the detection of the primary lesion, which is thus giving occasion to such universal disturbance. In surgical cases the local signs are frequently of more importance than the general or functional signs; but these signs vary according to the nature of the accident: thus, in a case of dislocated hip, the local signs are most important; whilst in concussion of the brain, the general and functional signs afford us an indication as to the nature of the disease: yet even here the local symptoms should not be neglected, as being in all cases of injury of the head of the greatest consequence. Look, therefore, in all cases to the general, functional, and local signs; and by these means you will, by experience, in all cases of accident or disease, easily learn to detect the nature of the lesion under which a patient is labouring.

You must be prepared to make each individual case a separate study of itself, as no two cases exactly correspond; for however much in features they resemble one another, you will always find shades of difference worthy of observation. In the examination of symptoms you will often have to bring to your assistance your anatomical and physiological knowledge, and thus apply practically in the wards of the hospital the knowledge you have gained in the theatre and dissecting-room. Let me, also, further advise you to follow your cases out to their very termination if you possibly can, as without this you will in many instances obtain but a transient glance at the general features of a case, without fixing on your minds any definite notion of its real nature. I may exemplify this by reference to the case of amputation which I performed the other day. On dissection of the limb it was found that there was comparatively little disease of the joint —much less than was supposed, but that necrosis of a considerable portion of the lower end of the femur, with extensive suppuration, was the real nature of the disease: and further, on the examination of the body after death, an abscess of small size was found in the lung, the result of purulent deposit, which bursting produced fatal pleurisy: the dissection thus verified our opinion that some lurking mischief was brewing in the lung during the last few days of the patient's life.

Now, after you have collected together many cases, whether of rare or frequent occurrence, you will have accumulated a mass of facts which in your after life, when engaged in practice, will stand you always in good stead in the time of need. You will look back to your recorded cases with great satisfaction, and often with considerable profit; for what you have observed yourself will be infinitely more useful than what you get from lectures or books: you will be enabled in many instances to find parallel cases of rare occurrence; and when in doubt as to the nature of a disease or accident, you will often be able, by comparing notes, to come to a satisfactory conclusion on the subject.

With these preliminary remarks, I shall now direct your attention to a case of very common occurrence: I mean concussion of the brain.

Concussion—fractured fibula—lacerated hip. [Reported by Mr. Holman.]

Charles Thompson, ætat. 36, a labourer in the London Docks, was admitted into the London Hospital, on the 15th of Feb. 1849, under the care of Mr. Adams.

It appears that whilst at work a bale of tobacco, about 18 cwt., fell from a loophole on to his head, striking him to the ground, and falling on the lower part of his leg.

He was immediately brought to the hospital, and on admittance presented the following symptoms:—

Furious delirium, throwing his arms about in all directions: this was increased on the least attempt to restrain him: the pupils of the eye contracted; no appearance of the least consciousness; pulse slow; skin at natural temperature. There was a laceration of the lip, dividing the coronary artery; and a fracture of the fibula, directly above the ankle. He was at once placed in bed, and in about an hour became moderately quiet, but continued moving about, and occasionally spitting against the wall near him.

He was left perfectly at rest until the evening, when the pulse becoming full and quick, the skin hot,—and on raising him, finding that he complained of pain in the head, discernible, also, from the contraction of the eyebrows, he was bled to sixteen ounces; was ordered ten grains of calomel to be taken directly, and Haust. Domestic. ℥iss. an hour after, and to be on milk diet. During the bleeding he continued very irritable, moving about every few moments, and spitting continually.

After this he remained moderately quiet, and continued so during the night.

16th.—Appears relieved this morning: the pulse is slower, and not so full; the skin less hot; but the headache continues, with more consciousness than before. Was ordered a grain of Calomel night and morning; bowels were opened freely during the day.

17th.—Much the same; and when no one

prevents him, pulls off the splint which is bandaged to his leg; headache remains: to apply Lotio Calcis c. Spiritu.

19th.—The headache still continues; pulse rather fuller than natural; bowels regular: was ordered twelve leeches to be applied to the forehead: the gums being affected, the calomel was discontinued.

20th.—Was much relieved by the local depletion, and remained more quiet during the day.

21st.—The headache not having gone, was ordered to repeat the leeches; and as the bowels had not been open, to take Haust. Domestic. directly: he still continues in that semi-conscious state, answering questions apparently sensibly, but still continues to take off the splint from his leg.

22d.—Headache still continues, referred to the right side of his forehead; is quieter, pulling the clothes over him and placing his head beneath them: six leeches to be again applied.

23d.—Better; bowels not open.—To take Haust. Domest.

24th.—Much better; no pain in the head; pulse, skin, and tongue natural.—To take a pint of beef-tea every day.

27th.—The bowels not open.—To take Haust. Domest. Being much better, was sent into the usual accident-ward with the other patients. To have middle diet.

March 5th.—Much better; no pain in the head; has no recollection of the accident, nor any idea of the length of time he has been ill.—To have full diet.

7th.—Much the same; answers questions sensibly; recollects having been carried down from the attic in a chair, but thinks that the room he was in was nearly as large as the ward, and that it contained several beds. He still continues in a semi-delirious state towards evening and at night, talking a great deal.

14th.—Is quite conscious, and is able to give a clear account of the accident. Towards the evening, however, he wanders in his mind.

You perceive that in this case the ordinary signs of concussion of the brain were present: these, you are aware, have been arranged by surgeons under three heads, or are said to characterise three stages of the disease.

The first is the stage of insensibility, and is characterised by the loss, more or less complete, of sense and volition: the skin is cold; the pulse weak, irregular, and intermitting; the breathing sometimes difficult, sometimes natural; the pupils of the eye sometimes dilated, sometimes contracted, but acting in obedience to the retina on the application of light: now and then vomiting occurs, and this is regarded as a favourable sign. The patient can be roused by speaking loudly to him, when he returns an uncivil answer, and speedily lapses into his former lethargic condition; and, as in the case before us, furious delirium, or even epileptiform convulsions, may be present. The fæces are usually retained, and there is nothing remarkable about the urine. I am speaking of a common case of concussion in the first stage; but you must expect much modification of the disease, according to the degree of injury: thus, in many instances, but few of these signs present themselves, and the patient recovers almost instantly, and walks away as if little or nothing had happened.

In the second stage the pulse becomes regular, the breathing better, and more natural; warmth returns to the skin, and the patient becomes more sensible to ordinary impressions: he remains, however, still in a lethargic condition, with a great tendency to sleep, and, in the words of Mr. Abernethy, "he becomes capable of attending to questions put to him in a loud tone of voice, especially when they refer to his chief suffering at the time,—as pain in the head; otherwise he answers incoherently, and as if his attention could not be excited, or was occupied by something else: he is, in short, like a man in a heavy sleep."

The concussion of the brain, lastly, produces inflammation of the brain, and this constitutes the third stage, which is the most important of the series of effects proceeding from this cause. Frequently the third or inflammatory stage is altogether absent.

I am anxious now to consider a few points in connection with these injuries—namely, the state of the brain itself under concussion, and the *rationale symptomatum.* The precise condition of the brain in concussion cannot, in my opinion, be readily ascertained. It has been supposed by some ingenious surgeons that, being subject to some expansion in a particular direction, according to the direction of the force applied, it contracts upon itself afterwards, and thus becomes smaller than before, or occupies less space in the skull. I do not attach any importance to this idea: it is better to confess our ignorance upon the matter than to resort to such hypothetical notions. The arrangement of the corpuscles of nervous matter which make up the brain is so subtle that even in the healthy condition it can scarcely be made out with accuracy; it is therefore very improbable that we shall ever be able to appreciate the shades of difference in the state now referred to, especially as concussion *per se* is so rarely fatal; for in the forty-five cases admitted during the last year into this hospital, not one death is found to have occurred: pure concussion is rarely fatal, In endeavouring to offer a consistent explanation of the symptoms of concussion, the physiology of the nervous system, as it is now generally taught, must be referred to. Thus the brain is regarded as the centre of sensation and volition, whilst the automatic movements of the body depend on the true spinal system, the ganglionic or sympathetic system being to a certain extent independent of either, although closely connected with nearly all the nerves of the brain and spinal cord.

The momentary effect of concussion appears to me comparable to the sudden discharge of electricity from an electric battery; and the subsequent restoration of the cerebral functions may, without any great stretch of ingenuity, be compared to the reaccumulation of the electric fluid in the battery. This restoration of the cerebral function must depend upon the influence of arterial blood upon the cerebral neurine. Now, in simple concussion, it is clear that the cerebral system is that which suffers most, and hence result the more or less complete destruction of sense and volition, whilst the true spinal and sympathetic systems continue their action almost uninterruptedly: at least in the simple forms of concussion. Thus the respiratory muscles and the sphincters continue their action: and the heart, although its action is disturbed, nevertheless continues to circulate its blood through the system. The failure of the temperature in concussion is obviously due to the derangement in the capillary circulation, and loss of nervous influence. In the case before us, one of the main symptoms, and certainly the most formidable one, was furious delirium.· Nothing can more forcibly illustrate the total subversion of the intellectual functions than this condition: you must be prepared to meet with delirium in a variety of forms in concussion; sometimes it assumes a maniacal form, sometimes that of dementia, and occasionally that of delirium tremens. In the case before us the delirium was akin to the delirium of mania, and, after a short time, gradually subsided, still leaving slight traces of mental derangement behind, which were apparent always towards the evening.

I should tell you that there is a form of delirium which makes its appearance occasionally *after* severe concussion of the brain, when the patient has been treated somewhat energetically by bleeding, &c., and especially in persons addicted to the use of spirits, and which requires a particular mode of treatment. It is, to all intents and purposes, a form of delirium tremens, and requires the use of opium for its removal. You are aware that this medicine is usually interdicted in injuries of the head: in this condition it must be given. The state is characterised by a quick, weak, faltering pulse; cool skin, sometimes moist with perspiration; a wild, staring eye; tongue furred and flabby; sleeplessness and jactitation, and mental delusions, resembling more or less those of delirium tremens. A dose of morphine, half a grain for instance, will generally induce sleep, and at once arrest the progress of the disease.

As to the treatment of concussion generally, in the simpler cases, and in the first stage, the patient is to be placed in bed, the head slightly raised, and the body wrapped in blankets; and generally, after a longer or shorter period, warmth returns to the surface, and sensibility is restored; after which, in the second stage, your attention is to be directed to the prevention of inflammation of the brain; and, if there is any pain in the head, bleeding, leeching, and the exhibition of drastic purgatives with calomel, are to be had recourse to: this is to be followed by the use of mercury so as slightly to affect the gums. Do not continue the antiphlogistic treatment too long, as it often happens that the brain is slow to recover its functions; and the pesistence in the free use of the lancet, or even the continued application of leeches, may be injurious: you must be guided by the pulse and the state of the skin, as much as by the condition of the intellectual functions; and, if the former is found to flag, a little broth or beef-tea, or even a little wine and water, may be given with advantage. Reason within yourselves as to the condition of the organ, and as to the means required to restore its function. If inflammation threaten, you cannot be too energetic in your treatment; but, by active means employed early, you will generally succeed in preventing it. I have little doubt that the brain is contused in many cases where the second stage of concussion is prolonged; and that, where either of the senses, as the sight, smell, or hearing, is permanently deranged, some mischief will be found at the origin of the nerves supplying the damaged sense; but I am free to admit that this may arise from a fracture traversing the opening through which the nerve of the injured sense passes; and this cannot always be recognised: it may, however, be with tolerable certainty predicated in some instances: as, for example, where there has been extensive hæmorrhage from the ear, succeeded by deafness, we may fairly presume that the auditory nerve has been involved in a fracture of the petrous part of the temporal bone.

In the more severe forms of concussion, where the vital powers are depressed almost to the point of absolute annihilation, it may be requisite to administer stimuli, and of these the best is warm brandy and water, given by tea-spoonfuls at a time, and artificial warmth is to be applied to the pit of the stomach and the calves of the legs; and by these means I have seen many recover where all hope of restoration seemed to have passed away. Avoid stimuli if you can, but do not discard them altogether. Bleeding in the first stage of concussion should never be resorted to: it is absurd in theory, and positively injurious in practice; it is now almost obsolete even amongst the most ignorant. Fortunately very little blood can be obtained; nevertheless I advise you not to yield to vulgar prejudice, and attempt to bleed against your own better judgment. Stimulating enemata are frequently highly serviceable in the second stage of concussion, especially as there is generally a decided tendency to constipation; but, above all other remedies, I know none equal to mercury continuously employed, until an effect short of salivation is produced.

Of the effects produced on the intellectual functions by concussion of the brain, you will find some interesting cases by Sir Astley Cooper, Sir Benjamin Brodie, and Dr. Abercrombie. In some of these cases the effects were transient, and were evinced by loss of memory either of things long passed or of recent events, especially of circumstances relating to the accident; whilst in others the memory has been permanently weakened, and in some completely destroyed. In the case before us it is only just now that the patient can give us any account of the mode in which the accident happened, and of what he was doing before it.

It now and then happens that a lost faculty or sense is restored by concussion of the brain: thus it has been known that the sense of hearing has been completely recovered after a severe concussion; but so fortunate a result must not be anticipated.

You will, of course, be prepared to meet with very great variety in cases of concussion, depending on the degree of injury the brain has sustained. Dupuytren describes three degrees of concussion: these varieties obviously depend on the extent to which the different divisions of the nervous system are affected. Thus it may happen that the true spinal and sympathetic systems may be affected simultaneously with the cerebral, in which case you would expect to meet with a more decided influence on the respiratory and circulating systems, and the sphincters in the worst cases would be paralysed: and this is precisely what happens. Stertorous breathing, and flapping of the lips and cheeks, a quick, irregular pulse, a fixed state of the pupils, incontinence of urine and fæces, extreme jactitation, with a sensible diminution in the temperature of the body, indicate at once a high degree of concussion of the whole nervous system, from which recovery can scarcely be hoped for.

Since the delivery of this lecture, a fatal case of concussion has been admitted. A man, aged 50, fell thirty feet from a ship's rigging, and was taken up completely insensible, and died in the course of twelve hours. When brought in he was in an extreme state of collapse: cold and senseless; his pulse scarcely perceptible, and that only at intervals; the impulse of the heart frequently escaping detection; pupils rather dilated and immoveable; breathing stertorous, and of a gasping character. Stimuli, as brandy and ammonia, with warmth externally applied, failed to resuscitate him.

Post-mortem.—A contused wound, of the size of half a crown, was seen upon the forehead over the left frontal eminence: the pericranium denuded; no sign of fracture. The scalp was congested. The cranium was exceedingly thick, with no diploe. The dura mater and pia mater were excessively congested: there was no effusion of blood or laceration of the brain.

DYSENTERY—PECULIAR POST-MORTEM APPEARANCES.

Dr. Jackson has reported a case of this disease, which occurred in the practice of Dr. Homans. The patient was a child six years of age, and died on the fourth day of the disease. The case was remarkable for the amount of retching that existed, and for the character of the discharges; these last were very frequent, more or less bilious, and contained very little blood, but masses of a substance that must have been lymph, although it was supposed during life to consist of some undigested farinaceous food. On dissection, the whole of the large intestine, to within an inch of the cæcal valve, was found to be lined with a whitish curdy exudation, beneath which the mucous surface was of a deep cranberry-red colour; no ulceration; solitary glands somewhat developed, and muscular coat thickened as usual. The small intestine was not affected; but in another case that has just occurred in a still younger child, Dr. Jackson found redness, with an effusion of lymph, not merely upon the mucous membrane of the lower portion of the ileum, but upon some of Peyer's glands; the large intestine being diseased essentially as in the above case. Dr. Jackson alluded to a specimen in the Society's Cabinet that shows the same form of inflammation of Peyer's glands in dysentery; and with regard to the effusion of lymph generally, he seemed disposed to consider it as characteristic of the disease in children, although by no means confined to them.—*American Journal of Medical Sciences*, January 1849.

Original Communications.

ANTICIPATION OF THE
VIEWS OF REINHARDT
ON THE
EXUDATION CORPUSCLE,
TOGETHER WITH SOME PRELIMINARY OBSERVATIONS ON
EXUDATION AND THE ELEMENTARY FORMS OF MORBID PRODUCTS.

By Andrew Clark, M.D.
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[Continued from p. 451.]

Part First—*continued.*

The structure, and particularly the economy of the nucleus, is a subject of profound interest to the histologist; and though differing from Kölliker,[*] who considers that body to be a primary, and the investing cell-wall a secondary cell, our observations incline us to attribute to it an equal, if not higher, importance in its functional relations. To do justice to this subject, however, would require a separate memoir; and at present we must confine ourselves to its relations of structure.

The nucleus is met with in three conditions structurally distinct from each other: it is met with as a delicate vesicle containing fluid; as a compound body made up, generally, of two or three large oval granules or cytoblasts; and lastly, as a single large ovoid body attached to the wall of the parent cell. The form of nucleus last described is generally predicable of the advanced, and the preceding two of the early stages of cell-life. This observation, however, bears exclusive reference to *healthy* cells; for, under the influence of morbid conditions, the vesicular and compound forms of nucleus are sometimes preserved throughout the entire life of the cell. The third form of nucleus, then, is, in relation to the life of the parent cell, unquestionably the last developed; but the question of the relative development in point of time of the other two forms—the vesicular and compound—is much less easy of solution. Does the vesicular precede the compound form; does the reverse of this obtain; or, does each of these represent a distinct primary type of nuclear development? Henlé considers the development of the compound form to be first in point of time, and Kölliker, the vesicular; whilst Reichert and others assert that the existing evidence on the subject is insufficient to determine any primary unity of form in the nucleus, the earliest visible condition of which is at one time compound, at another vesicular.

Keeping out of view for the present the so-called vesicular nuclei of the cells primarily developed in the yolk,[*] and admitting also (as asserted by Bischoff and Wharton Jones) the disappearance of the germinal vesicle shortly after coition, it will readily be admitted that the presence of a vesicular nucleus in the interior of a healthy cell measuring less than 1-1700th of an inch in diameter is rarely, if ever, observed. Cells of less than this diameter never exhibit a *vesicular* nucleus, and rarely any nucleus at all, unless under the influence of reagents, or when reduced by other causes to a state of disintegration. The latter do possess a nucleus, or rather the rudiments of a nucleus, nevertheless, and its presence can be easily demonstrated by the aid of acetic acid and various other reagents. Brought into view by acetic acid, this nucleus is found to be compound,—composed, in other words, of from two to five irregularly rounded granules, occurring either separately in the interior of the cell, or connected each to the other by an intervening substance which dilute acids deprive of its tenacity and consistence.

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[*] Entwickelungs-geschichte der Cephalopoden, p. 148, et seq.

[*] These so-called vesicular nuclei of the cells primarily developed in the ovum I consider fully developed cells imbedded in a mass of fatty granules, and invested by the proper membrane (?) of the yolk. From this membrane the granular mass of cell-development shrinks, and contracts irregularly towards the centre; and it is mainly from this appearance that the formation of cells, each having a vesicular nucleus and a granular nucleolus, by cleavage of the yolk, has been inferred. Without entering into details, I shall mention merely two facts which of themselves strongly affect, if they do not destroy, the probability of this view. They are these:—

1. Admitting that the corrugations mentioned as occurring at the outer edge of the granular mass are actual indications of its cleavage into smaller masses, these cannot, in the strict acceptation of the term, be considered cells, inasmuch as they possess no vesicular envelope or cell-wall.

2. The aggregation of granules around cells in the progress of development is met with under circumstances where the formation of cells by cleavage is never observed.

The three forms of nucleus above mentioned correspond to so many distinct stages of the structural development and functional manifestations of that body and of the parent cell, each stage, in point of time, holding a definite relation to the other. There is the first and imperfectly developed stage of cell-life, with the compound nucleus; the second, which in glandular cells is the perfectly developed stage, with the vesicular nucleus; and the third and last stage, in which the nucleus, if it has not previously escaped, is oval-shaped, flattened, and more or less solid. The first of these is a preparatory stage: it is the infancy of cell-life, the stage in which it is being fitted for the performance of the function the healthy manifestation of which is the end of its existence. The second and more perfect stage is one of action: it is the stage in which the functional activity of the cell begins, and attains its greatest vigour. Lastly, we have the third, the stage when the cell, having been rendered incapable of action by diminution of its vital powers and changes in its physical constitution, is thrown off, disintegrates, and dies.

The truth of these general propositions may be readily proved by reference to the particular histological details on which they are based.

Examined under the microscope, without the use of reagents, the epithelial layer of the mucous membrane of the side or under surface of the tongue will be found to exhibit the following corpuscular forms:—

1. Irregularly spherical non-nucleated corpuscles, rather larger than the human blood disc, the outline of each defined by a thick refractive ring, clouded in the interior, or obscurely granular, more or less solid, and having adherent to their outer surface a few molecules and granules.

2. Delicate spherical or oval-shaped cells, from two to five times the diameter of the former, tumid and elastic, from the presence of fluid contents, studded with fine molecules and granules, and each exhibiting, with greater or less distinctness, a vesicular-looking nucleus.

3. Large flattened but delicate cells, studded with molecules and granules, and exhibiting flattened, oval-shaped, eccentric nuclei.

These varieties are not essentially distinct from, and independent of, each other. The first form of cell merges, by a series of regular gradations, into the last, and the division here adopted is on that account somewhat arbitrary. It is convenient, however, inasmuch as the *extremes* of these varieties strikingly contrast with each other, and are very differently affected by the same reagents.

Lastly, there is another form of corpuscle associated with those above described, which, as it is in reality but a sort of offshoot from the first, has not been classed as a distinct variety. The corpuscles referred to are comparatively few in number, irregularly rounded, oval, or elongated in shape, vary from two to five or six times the diameter of the blood disc, have their outlines very distinctly defined, are cloudy in their interior, or marked by faint concentric lines, rarely contain molecules or granules, respond tardily and imperfectly to the action of acetic acid, and resemble somewhat the solid fat globules met with in other parts of the body. Some of these appear nucleated, and not a few of the larger forms exhibit on their exterior one or two cup-shaped cavities, produced by extrusion of the nucleus. The exact morphological relations of these bodies will be determined by the observations which follow.

The corpuscles referred to the *first variety* vary somewhat in their size, appearance, and mode of response to the influence of reagents. The smallest are irregular in form, about the size of the blood disc, very obscurely granular, have thick refractive outlines, and are inappreciably affected by acetic acid. This is the earliest independent form of cell-life: the corpuscle is more or less solid, the cell-wall indistinct and inseparable from its contents, and the nucleus undeveloped. At this stage of its existence the corpuscle may itself be considered a nucleus, which, in the strict acceptation of the term, becomes a cell, only the development of a nuclear offspring in its interior. The corpuscles next in size are more regular in form, studded with molecules and granules, have a less coarse outline, and, under the influence of acetic acid, swell, become pale, and exhibit in their interior each from two to five large irregularly shaped granules, forming a compound nucleus. This is an advance of development upon the form last described—a higher manifestation of the effects of the same determining force. Here we have the first demonstrable evidence of the existence of a distinct cell-wall; and here exhibited the first rudiments of a nucleus, the subsequent transformations of which give individuality to the development, and character to the function, of the parent cell. The largest forms of these corpuscles closely approximate in character to the lowest forms of those comprehended under the second variety. They are pretty regularly spherical, finely marked by molecules, soft and elastic, from diminished consistence of the cell contents, have a distinct but delicate outline, and in some cases faintly exhibit, without the aid of reagents, a single or double oval nucleus. Acetic acid distends these corpuscles, but fails to dissolve entirely their molecular and granular constituents: it renders them paler, however, and more delicate, and exposes in the interior of each a nucleus rarely composed of three particles, generally one or two. When in *these* instances the nucleus is triple, the particles composing it are almost invariably associated *together* at one point in the interior of the parent cell: they are not merely in apposition, but they are connected with, or glued to each other by, a substance which is dissolved, or, at least, the plastic property of which is destroyed by acetic acid. When composed of one or two pieces, the character of the nucleus is generally more or less vesicular. These details lead us into the consideration of the

Second variety, the lowest forms of which differ but very slightly from those last described. The general characters of the corpuscles comprehended under this variety have been already enumerated. The smaller ones are spherical; the larger, oval-shaped or elongated. In the former the nucleus is vesicular; in the latter it is rather ovoid and flattened. A double nucleus is occasionally exhibited by the first, and more rarely by the second. Acetic acid renders the cell-wall and its granular and molecular contents paler, but not imperceptible. The elongation and flattening of the nucleus, and the development of analogous changes in the parent cell, form characters which together merge insensibly into those peculiar to the

Third variety.—The earlier forms of this variety are flattened and many-sided, still possess more or less fluid contents, and have their nuclei oval-shaped. The more advanced forms are completely flattened, devoid of fluid contents, and rather brittle. The surface of the cell-wall exhibits several linear markings or folds, and the oval flattened nucleus is imbedded in its substance. Acetic acid renders the earlier forms pale and gelatinous-like; on the more advanced it produces little or no effect; and in neither do the molecular and granular constituents entirely disappear under the action of acetic acid.

These details are generally, if not universally, true, and we are justified in inferring from them that the three varieties of corpuscles above described are correlative to each other, and that there also obtains, between the different forms of nucleus which they respectively exhibit, a similar reciprocal relation. To express the proposition in plainer terms, it may be said that the three varieties of corpuscles above described, and the forms of nucleus corresponding to them, are but different aspects of the same body, produced through age, and determined by the vital and mechanical conditions of their existence. In the particular instance selected for illustration, the first variety represents the earliest, the third the latest stage of cell-life; and it remains for us now to determine the nature and relative succession of those changes by which the development of the one from the other is effected.

As already stated, the earliest independent form of cell-life met with in mucous membranes is that of an irregularly rounded or oval particle, about the size of the blood disc, of more or less solid consistence, insensible to the action of acetic acid, and exhibiting no decided indications of the existence of a distinct cell-wall or nucleus: it is from this body that we must proceed in tracing the progressive development of the cell and its nucleus. As its age advances, the corpuscle becomes swollen, studded with granules, more regularly spherical, softer, and elastic. Along with these changes, which are at once apparent to the eye, others also occur, requiring the aid of reagents for their detection. The central part of the hitherto solid corpuscle diminishes in consistence, and thus the first step is made towards that distinction which ultimately obtains between the cell-wall and cell contents. Coincident with this diminution in the consistence of the central portion of the corpuscle, there occur changes of chemical composition; several of the molecules developed in the midst of what may now be termed the cell-contents unite together, and become, as it were, fused into granules, four or five of which are formed at different points in the interior; and the other elements of the corpuscle, before insensible to, have become now susceptible of, the action of acetic acid. At this stage of its existence the wall of the cell, and its molecular contents, become pale and indistinct on the application of the last-named reagent; the granules—the rudiments of the future nucleus—alone remaining unaffected. At this particular stage of its development the corpuscle is analogous to what are called the germinal particles of many glands, and almost identical in constitution with one of the elementary forms of morbid products: arrested, indeed, at this period of its existence, and slightly modified by the occurrence of new conditions of existence, this corpuscle becomes, in point of fact, a *pus-globule*. Increasing in size, the cell becomes spherical, and its contents fluid. New molecules are developed in its interior, which resist the action of acetic acid, and the granular rudiments aggregate towards one point within the cell. In process of time, one or two of these granules disappear, whilst those remaining enlarge, and become connected together by means of the plastic matter already mentioned. Simultaneously with the occurrence of this event there are developed in the interior of the cell certain fatty changes which in some way or another appear to be intimately connected with the transition of the nucleus from the compound granular form to the single or double vesicular. The molecules previously rendered invisible by acetic acid now resist its action, and gradually lose their distinctness and definition, whilst the whole interior of the cell becomes cloudy and confused. In the healthy corpuscle this stage is a very transitory one, and often less decidedly marked than here described: its disappearance is coincident with the development of new molecules, and the appearance in the interior of the cell, without the application of reagents, of a single or double vesicular nucleus. We have stated this fatty stage in the progressive development of the cell to be of short duration. In the healthy state it is so, but under the influence of some undetermined conditions it occasionally becomes permanent. The corpuscles then shoot off from the direct line of normal development, become more decidedly fatty, attain a greater consistence, the cell wall becoming at last incorporated with the cell-contents, develope no new granules in their interior, resist the action of acetic acid, and become, in short, identical with the bodies described at page 491. When fairly severed from the normal impetus to development, these bodies, by the apathy of their vital manifestations and perversion of the function they were destined to fulfil in the economy, become in reality *elementary forms* of morbid products. As such they almost invariably accompany organic changes in the gastro-enteric and genito-urinary tracts of mucous membranes; and many partial thickenings in the small intestines are often almost entirely composed of accumulations of these bodies.*

Emerging from the fatty stage, the wall of the healthy cell becomes more delicate, and its contents perfectly fluid; whilst the nucleus, formerly consisting of two or three pieces intimately adherent to each other, appears as a single vesicle. That the single nucleus is really formed in the manner above described, seems proved, partly by the observations already detailed, and partly by the fact that for a short time after its formation it may be resolved into its component pieces by the action of strong acetic acid. In this stage the contents of the nucleus are more consistent than those of the parent cell. Through age, the mechanical conditions of its existence, and other obvious causes, the cell becomes gradually flattened, less pliable, and elastic. Its contents become of greater consistence, diminish in quantity, are incorporated with the cell-wall, and at last almost entirely disappear, leaving nothing but a flattened scale, which in time is either broken up into fragments or resolved by molecular disintegration. During these changes the nucleus assumes an oval or flattened shape; its investing vesicle becomes much thicker, and its contents finally solid.

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* Numbers of these cellular bodies are met with also in what are known as cancerous tumors of the lip. In a tumor of this kind which I received a few days ago from Dr. M'Kechnie, of this hospital, the cells occupying the meshes of the fibrous areolæ were mainly of this description.

Of the three stages of cell-life above described, the second or vesicular is more active than the first, and the first than the third. All of them are liable to morbid changes, and the liability of each stage is in direct proportion to the normal activity of its vital manifestations: it is for this reason that the vesicular is the form of cell most frequently found diseased. This observation applies also to the different forms of nuclei, with the exception that the *first* appears to be less affected by the presence of anormal conditions than the third. The cell or its nucleus may become affected by morbid changes simultaneously or at different times; and the one exhibit alterations of structure, whilst the other continues to all appearance healthy. Again, the nucleus, either when arrested in development or changed in structure, may remain in the interior of the cell, or be extruded from it and assume an independent existence. Cells, or the nuclei of cells, in this way modified by development or changed in structure, become, as it were, new bodies endowed with new properties, and form, along with others similarly affected, *elementary forms of morbid products.*

Keeping in view these general observations on the anatomy of the cell, we shall proceed to apply them to the special description of the cells lining the pericardium, and to contrast the characters of these with the characters of the corpuscles peculiar to serous exudation into the pericardial sac, in order to determine the truth of the proposition, that the latter are but modifications of the former.

REMARKS ON OBESITY.

By John Richard Wardell, M.D., Edin.

[Read before the Western Medical and Surgical Society of London.]

Obesity is a disease, when going on to a fatal termination, that is very seldom met with even by those engaged in very extensive practice; and as regards the medicinal treatment of such cases, most agents seem inoperative, beyond the mere exhibition of those remedies which increase the flow of the natural excretions, and by keeping up a constant drain upon the system, thus those particles are carried off which might, if retained, be converted into fat: but as we know that the deposition of fat, in these instances, is not in a relative proportion to the consumed ingesta, and chiefly dependent upon perversion in the assimilative process; or, as some pathologists have affirmed, that the disease originates first in the blood itself; the question rather merits an investigation into its fundamental causes, with a view, if possible, to successfully combat such causes, than to be regarded merely as a curious specimen of disease. The rapid advances of chemical pathology which have of late thrown great light upon what were previously considered questions involved in impenetrable mystery, have developed facts so manifest, as to now lie beyond the point of disputation: and whatever reflections the self-styled practical man may make on the investigated truths of those who would rear the superstructure of rational medicine upon the basis of philosophic deduction, it is too abundantly evident to be more than insisted upon here, that the above-named and other branches of professional knowledge have supplied us, in the treatment of these kind of affections, with principles easily reducible to practical bearing,—without which the exercise of the art becomes mere empiricism, founded upon crude reasonings and vague speculations.

In many persons there is a considerable inclination to corpulency, which, when not excessive, is accounted as an indication of robust health,—as the result of an active vascular system, and a condition of the blood highly replete with those materials from which the various tissues are elaborated, than as evidence of morbid change: therefore health and great increase of adipose matter may coexist, and are not incompatible. All carneous, oleaginous, and farinaceous aliments favour corpulency, as from such the elements entering into the constitution of fat are plentifully elicited. In the normal state, when the body has acquired its proper standard of height, and has expanded to the adult dimensions, health, so called, is when there is a corresponding relation between the two great processes of decay and renovation, — processes which, from the first embryotic commencement of the new being, to the latest moment of its existence, are continually going on, modified, however, by certain laws infallibly operating in the animal economy, as well as by numerous extrinsic influences that importantly bear upon these changes. When renovation becomes excessive, hypertrophy, partial or general, is the consequence;[*] and late writers have gone so far as to maintain that even inflammation in a part is nothing more than an excess of nutrition to such part, and that the sequent train of phenomena are referable to such cause.[†] General hypertrophy always manifests itself by the deposition of fat, and if to a great degree, by the conversion of various tissues into that substance; and all by being surcharged with it, the filamentous and muscular, are, after the adipose (which is a tissue peculiar to fat), most liable to assume the diseased mutation. The localities where the chief depositions are found in the obese, are in the subcutaneous cellular tissue, the omentum, the filamentous structure around the kidneys, mediastinum, mesentery. and the interstices of the muscles. The pericardium and appendices epiploicæ may also be instanced. When obesity is partial, the omentum beneath the chin, the mammæ in women, and sometimes the nates, as in the Bosjesmian Hottentots which many travellers have not omitted to describe. There is a race of sheep at the Cape of Good Hope, in the bodies of which partial obesity is so considerably developed in their hind quarters, as to quite destroy the animal's symmetry.

Obesity is not confined to any particular period of life, as infants as well as adults labour under the affection; and illustrations are in medical literature supplied, where at birth the obese tendency was evident, and which gradually afterwards progressed to extraordinary magnitudes. Mr. Wadd, who is quoted by most writers on this subject, has given many instances corroborative of what is now asserted. Mary Tate (says Mr. Wadd) was the daughter of an inn keeper at Cambridge, and at 12 years weighed 13 stone! Isaac Butterfield, born near Leeds, when not 2 years old weighed one hundred-weight! I may here give the particulars of an extraordinary case which I personally examined a few weeks ago, in the instance of a child which has been for some months past publicly exhibited in various parts of London, and called the "Infant Goliah." William Fields was born at Manchester in October, 1845. At birth he had three teeth, and when thirteen months old he had twenty-six teeth. He is of particularly mild and amiable disposition, scarcely ever being fretful and uneasy, as generally noticed in children of his time of life. Has light hair, blue eyes, and is of fair complexion. Around the shoulders he measured thirty-nine and a half inches; round the body, thirty-six and a half inches; round the knee, sixteen and a quarter inches; at calf of leg, fourteen and three-quarters; at ankles, seven and a half; at upper arm, fourteen and three-quarters; and below elbow, eleven and a half inches: weighed then (Nov. 1848), being but three years and a month old, 124 pounds! One of his relatives, his father informed me, weighed 35 stone, 12 lbs. He is as tall as most boys at six years of age. The skin is soft and smooth to the touch, and, when pressed upon, imparted to the fingers that elastic springy feel so characteristic of fatty formations. The subcutaneous accumulation hangs in pendulent annular folds on the limbs, and at the lateral aspects of the body bags down in shapeless masses. The penis and scrotum I particularly examined, as well as Mr. Prout Girdwood, who accompanied me to inspect this strange specimen of obese disease, and it was found that the genital organs were not larger than in children of the same age. No testes could be felt, and the scrotum contained nothing but two thin cord-like substances, of not more than from one to two lines in thickness. The father stated that both Sir Charles Clark and Dr. Locock had previously examined the genital organs, and that they were normal; but those physicians could not have made more than a visual inspection, as there certainly were no testes detectable by manipulation. His appetite was very large, and he passed the major part of his time in eating and sleeping. After numerous questions were put, it was conclusive there was no precocity of intellect, and his deportment and answers were quite in accordance with such as might have been expected in children of his age.*

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[*] The common fatty tumor is but a *partial obesity*, and in those cases where the omentum in particular becomes so enlarged with fat as to give rise to what is vulgarly termed the "pot belly," is another instance of partial abnormal deposition of fat. Some of the encysted tumors, particularly the atheromatous and steatomatous, might also be considered as somewhat of the same radical nature.

[†] Professor Bennett, of Edinburgh, and others.

It appears to have been one of the many wise provisions of Nature that all young animals should be endowed with a considerable amount of fat, thereby supplying an abundance of those materials so essentially necessary in the generation of animal heat; and, were it otherwise, young creatures would be liable to perish from a gradual declension of vital power consequent upon a deficient amount of animal heat, without which all tribes of warm-blooded animals could not exist. M. Chossat's† experiments on this point have unequivocally attested the fact. It was found, when birds were deprived of food, that a diminution of temperature in their bodies resulted; and this fall of the thermometer was in a precise ratio with the increase of inanition. In some of these experiments, where the inanitiated state was carried so far as to induce death, the thermometer fell on the last day to 25° Fah., whereas on the earlier days of the inanitiated state the reduction of temperature was not more than three or four degrees. On examining the various organs after death, more than 90 per cent. of fat had been absorbed; and those animals which at the commencement of the experiments had the greatest amount of fat, lived the longest. When artificial heat was applied before death, the animal was for a time somewhat revivified, and the torpor immediately returned as soon as the artificial heat was withdrawn. From these investigations into the laws of animal heat, M. Chossat had incontrovertibly shown that fat is really the fuel from which the calorific agent is obtained; that any continuous existence is incompatible with the entire loss of it; and that, of all the solids of the body, it is by far the most quickly consumed; that, where the protein compound is not supplied for nutrition, life can for a time be sustained by the absorption of this material existing in the body itself. It might also have been mentioned that M. Chossat found the nervous tissue scarcely in any degree below its normal weight, whilst every other tissue had undergone considerable diminution; from which it might appear that the nervous tissue and the healthy maintenance of the nervous centres were intimately dependent upon the fat of the body, and not, as other organs, upon the protein-compound: hence we have a theoretical explanation why individuals of active brains and great nervous irritability are seldom fat, because the increased exercise of any organ evolves an increased quantity of effete molecular particles, and increase of waste demands a commensurate augmentation of renovating materials; therefore, if the materials which go to nourish the great nervous centres are mainly educted from the fat, leanness and an active nervous system stand in intimate relation to each other. Animals inhabiting the arctic regions have a far greater adipose development than those which are natives of the tropics; because in those cold regions it is required that more carbon and hydrogen should be *burnt* for the keeping up of the respiratory function. An Esquimaux or a Greenlander could not bear the rigorous cold of his northern climate if he did not feed largely on oleaginous articles of food; hence, what may, by those living in a temperate zone, be considered a vitiated taste, is precisely in accordance with the real wants of their bodies, and without such kind of nourishment an existence in those latitudes would be insupportable: therefore all those animals upon which they live afford an abundant supply of the fuel upon which the flame of life is kept alive. The peaceful Hindoo can live in positive health on a far less heat-giving aliment, because the climate supplies the body with much of that warmth which in arctic regions it is obliged to generate within itself from a continuous chemical combustion. There is a caste of Brahmins who have not eaten flesh or wine from the beginning of the world,* which would have rendered extinct a northern tribe; yet they live in health, and are a fine people. In infants there is a considerable supply of fat, exactly in accordance with those laws which have been described above, relative to the inhabitants of cold regions. The respiratory and circulatory functions in the young are carried on with far more frequency than at an adult age; hence the processes of decay and renovation will be relatively greater, and especially the latter, which by exceeding the former gives rise to *growth* or increase of volume. The particles given off by a quick circulation are carried in abundance to the site of assimilation of the tissues, and, as they are not proportional to their generation, drawn off as waste by the effete emunctories, and transformed into various tissues. This supply of fat to the young is in a great measure deposited in the subcutaneous cellular tissue, where it cannot possibly interfere with the natural performance of the vital organs, nor encumber the visceral cavities; and as the internal parts of the young, during that state of inaction incident to their inability for exertion, might have been deleteriously affected by a low external temperature, the subcutaneous interposition of adipose matter is highly calculated to avert the evil consequences which might otherwise have followed. When infants are morbidly fat, the depositions formed in a normal quantity in various parts are of course succeeded by similar phenomena to those witnessed in adults: there may be mechanical obstruction given to the respiratory and circulating apparatus, and it has been said that there is torpidity of the bowels. The child Fields could not undergo even moderate exercise without accelerating the breathing; and the somnolent tendency was so constant, that whenever left in a state of quietude he fell over into a slumber.

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* In eunuchs, the castration and spaying of animals, there is abundant proof how the removal of the testes and ovaria favour corpulency, and that by their loss the body loses its fine proportions. A case may here be cited where there was congenital deficiency of the testes in an individual whom I have long known. From infancy he was fat, and became more unshapely as he became older. He is between twenty and thirty years of age, and a monster in appearance, from obesity and unsymmetrical development. This person is below the middle stature; has no whiskers or beard, small sunken eyes, squeaking voice, effeminate hands, the scrotum and penis remarkably small, and without any hair on the pubis. His figure is unwieldy and disproportionate. The inferior extremities are thrown forward in the gait, and the limbs have lost their proper shape. The skin is soft and velvetty, and those inter-muscular lines so natural to the male conformation are lost in a smooth and even plumpness. There are cases on record, where the testes, from accident or operation have been lost, where a change to the above-described conditions have gradually supervened, proving indisputably how these organs influence the entire system.

† Recherches Experimentales sur l'Inanition. Paris, 1843.

Females are decidedly more predisposed to the obese condition than males. When, either from the time of life or other cause, the irritation of the genital organs is not present, the liability to fatness is much more favoured; and most of the cases of obesity which we find recorded have been in early life, or at that age when the desire for their exercise has considerably abated. On referring to the autopsy of the female given below in this paper, it will be seen that the uterus and ovaries were, even in so large a person, smaller than natural. After the meridian of life, the impulses of the passions operate with less power, and there is then an increasing partiality for less corporeal exertions, whilst, perhaps, there is a stronger relish for the indulgences of the table. On examination of the histories of these cases, it will generally be found that other branches of the family have been more or less inclined to polysarca; or, in other words, that they are predisposed to it by an hereditary tendency, which, as it has been seen, was the fact in the instance of the child Fields. Dr. C. J. B. Williams, in his article on this disease in the Cyclopædia of Practical Medicine, speaks of sthenic and asthenic obesity; the former of which that writer asserts is characterised in persons who have unimpaired constitutions, live on a full and highly nutritious diet,—with whom the secretions are normally eliminated, the circulating function carried on with energy, and the blood-vessels well filled with a healthy fluid, and where the corpulency first becomes developed rather as an excess of health than as the primary condition of disease. The latter, says that writer, "is commonly allied with a leuco-phlegmatic temperament, a soft languid pulse, defective excretions, and a low irritability of body. There is in such individuals a sufficient activity of the first part of the digestive process; but a somnolent disposition, often present for some hours after meals, indicates the admixture of chyle in the circulation, and a tardiness in its assimilation. The chyle thus supplied probably abounds more in fatty particles than in albuminous globules: until, therefore, the former are deposited from the circulating mass in the adipose membrane, the blood does not recover its natural and most healthy constitution." It has already been mentioned, when citing the experimental investigations of M. Chossat, how the fat of the body is more liable to absorption than any other tissue, and that, indeed, the blood can, during inanition, for some time be so renovated by its absorption from this substance, as to be supplied with a certain degree of stimulus necessary for the carrying on of the vital functions. It is, too, in this manner explicable why great bodily exertion is inimical to corpulency: the waste exceeds the amount of renovating materials supplied by the ingesta; hence, increased activity of absorptional function, and the further demand which there is upon the nutrifying properties of the blood, is made up by the absorbents falling back upon the fatty tissue. Now, if in the leuco-phlegmatic temperament there should, from some cause, be a diminished degree of absorptional power, together with the co-existence of other and acknowledged conditions that favour the above deposition,—as corporeal inactivity, a sluggish nervous system, defective action of the sudoriparous and renal organs, and a diet possessing considerable amount of carbonaceous and hydrogenous principles, it may readily be supposed that the blood would then eliminate a less quantity of fat globules from the circulation than ought to be given off, and that these globules would, in the assimilation of the tissues, be of course deposited by the adipose tissue. In some individuals in whom the circulatory function is carried on with great activity; where the vessels are large, filled, as it were, to plenitude; and when the blood is drawn presents all those conditions commonly known as characterising *rich* blood, as in a person of bilious temperament; yet such individual, with these peculiarities, with a blood abounding preternaturally with fat vesicles, may have at the same time rather an inclination to leanness than corpulency. In an instance of this kind there would be an increase instead of a diminution of absorptional power, whereby the fatty particles and other nutritious materials of the blood would in too great a degree be taken up into the circulation, and in a normal amount carried away from the seat of the assimilative process, to the various excernent organs of the body, especially to the liver, which viscus, from this excess of action imposed upon it, is prone to become ultimately obstructed and permanently torpid. In the sthenic form of obesity, which has been termed an "overflowing of health," of course the hepatic viscus, like all other organs, partakes of that hypertrophic proclivity which the system has generally acquired. Whatever may be the rationale as explicable of enlargement of the liver in polysarcous subjects, it is undeniable that it is generally found in the autopsies of such, of preternatural volume. It is true that as the disease advances there are conditions highly favouring its congestion,—as mechanical obstruction, torpidity of the bowels, considerable appetite, a sedentary mode of life, sluggishness of the mental faculties, and, perhaps, very generally more or less of renal disorder.

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* Herder's Philosophy of Man, Vol. I. p. 343.

27, Acacia Road, Regent's Park.

[To be continued.]

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 15th March, 1849.—Theophilus Taylor, Hereford—John James Williams—William Nicholson Price, Leeds—Thomas Newham, Rothwell, Northampton—John Livy.

NOTICE ON THE CHOLERA IN RUSSIA IN 1848.

By Dr. Mackenzie,
Senior Surgeon to the Naval Hospital at Archangel.

Part I.

Causes of the diffusion of the disease—Infection and atmospheric conditions—Supposed resemblance to intermittent fever.

The epidemic cholera, after spreading its ravages throughout the Russian Empire, having scarcely left a town or district unvisited, is now on the decline, whether to revive or disappear entirely, it is impossible to foretel. Its prevalence in Astrachan more or less since 1846, as also in Moscow since 1847, disappearing for a time and then reviving, leads to serious apprehensions that the disease will make a permanent residence in Europe, as it has done in India.

To give an idea of the devastating extent of this pestilence in Russia, I may mention that, according to public returns as published in the St. Petersburgh Gazette, in the course of two months—namely, June and July—when the disease may be considered to have been at its height, 157,977 persons were carried off.

It becomes a matter of vital importance to determine the mode of progression of the disease: whether by infectious human intercourse solely, or in part; or whether it proceeds from some occult cause connected with a peculiar state of the atmosphere, independent of, and uninfluenced by, human agency.

Medical men, in their inquiry into the nature of this pestilence, have run, it seems to me, into the too frequent error of substituting opinions for facts, or of drawing conclusions from a too limited number of observations; regardless of the rule, that a fact must be proven to be universal, before a legitimate deduction can be made from it. Had this rule, so strongly insisted upon for medical inquiry by Dr. Abercrombie, been more closely observed in this instance, the question as to the infectious or non-infectious nature of epidemic cholera would have been long ago set at rest. If all individuals were alike susceptible of, or predisposed to, the poisonous principle which gives rise to the disease, there would be no difficulty in determining the question to our satisfaction; but inasmuch as the constitutional strength of one resists its influence, whilst that of another succumbs to it, it becomes a matter of great difficulty to determine to a conviction the operation of a contagious principle; the difficulty being still further increased by the intricacy of human intercourse. It appears to me that we may soonest arrive at a safe conclusion by studying the appearance of the disease in fresh and distant places, and by applying the numerical method to determine the proportion of seizures amongst those who waited upon, or have intercourse with, the sick, compared with others.

In the account which I am about to give of the appearance of the epidemy at Archangel, I shall state facts, without any bias, as they have come to my knowledge, or fallen under my own observations; my object being to aid in discovering the truth amid the obscurity in which the subject is involved.

The epidemic cholera broke out at Archangel on the 8th July, O.S. 1848: the first case occurred on a float of timber, which had arrived two days previously, for the government dockyard, from Totma, a small district town, situated on the river Suchona, in the province of Vologda. The men who guided this float had, before leaving Totma, been to a place a little farther up the country, near which the timber was cut, called Ledensky. Here there are salt works, the property of government, which constitute a source of considerable traffic with the surrounding provinces; and it was reported that the epidemy had shown itself there, and that it had been imported from Kostroma by the people engaged in the salt trade. The men in question, however, as well as their officer, deny the truth of this report; but as the fear of punishment for holding intercourse with an infected place without necessity, might deter them from telling the truth, little reliance can be placed upon their assertion. (It is worthy, however, of remark, that the first case which occurred in the town of Vologda was on board a craft loaded with salt from this same place.) From the time of the float leaving Totma to its arrival at Archangel, a period of four weeks, the men enjoyed good health. On arrival, the float was anchored close to the shore, near the market-place, when intercourse commenced with the town.

The subject of the first seizure had not been ashore, but remained on the float. On the morning of the 8th July, he felt a headache, and was soon seized with giddiness, nausea, vomiting, and purging. At three o'clock P.M. of the same day, he was brought into the Naval Hospital in the fully-developed blue stage of epidemic cholera, and in two hours and a half he died.

The second case occurred in the evening of the same day, in the main street through which the first case was carried to the hospital. The subject of this case had been drinking, it is said, on the previous day with some of the men from the float: he was taken to the town hospital, where he died next morning. On the same premises, as many as five cases, one after another, occurred. The *third* case was from the same float as the first, and took place on the 9th July. The fourth case occurred on the 11th July, being a soldier who stood watch on board a government transport that lay opposite the dockyard, at a distance at least of two miles lower down the river from the infected float. Between this case and the float no intercourse, mediate or immediate, was discovered or suspected. From this period the disease begun to assume an epidemic form; the seizures occurring dispersedly, without the slightest connection, so far, at least, as we could trace. On the 17th July, the disease had arrived at its maximum, whilst the neighbouring villages still remained intact; nor did any case occur in these till some of the villagers engaged at work in town returned, or were carried home sick of the disease.

Previous to the epidemy appearing at Archangel, it was reported that it had broken out at Suma, a petty port in the district of Onega on the 24th June, and that it was spreading rapidly amongst the peasantry. That it should have shown itself in that remote district first, caused no small degree of surprise: on inquiry, however, it was discovered that the disease had first commenced amongst some pilgrims from St. Petersburgh, who were on their way to the monastery of Solovetsk—a place held in great estimation throughout Russia, and visited by about six thousand persons every summer, the pilgrimage being considered efficacious for the cure of diseases, and for the expiation of sins.*

The breaking out of the disease at this place is to be attributed to the delay experienced here, and to the accumulation of pilgrims consequent thereupon, before embarking for the monastery, which is situated on a small barren island in the bay of Onega. Here a great many of them, as I am credibly informed by a monk belonging to this institution, terminated their earthly pilgrimage.

In Vologda, as has already been observed, the disease broke out on board a craft loaded with salt from Ledensky. At Ustyuga, which is in the direct line of communication by water between Vologda and Archangel, the epidemy manifested itself on board a vessel which had arrived from Vologda: this occurred, strange to say, subsequently to its appearing here. In Novoya Ladoga, a town in the province of Petersburgh, the first case of cholera was in a person who had arrived from Tichvin (a town on the road between Petersburgh and Vologda), where the epidemy had shown itself. The first case in St. Petersburgh was a person also arrived from Tichvin.

The epidemy, so far as my knowledge extends, has not shown itself in a new and distant place in the north of Russia, independently of intercourse with an infected quarter. It is reported, indeed, that at Tobolsk, the capital of Siberia, the epidemy broke out on the 1st of July, in so sudden and unexpected a manner as to leave the local authorities quite at a loss to account for its appearance. It appears that the disease broke out on board a pram loaded with spirits, which was on its passage to the town of Berezoff. Of seven cases of cholera, some had died on board; others were carried on shore to the town hospital. On the 3d July the epidemy showed itself amongst the inhabitants, and, by the 12th, 526 cases had occurred, of which 198 proved fatal. No particulars in the official reports are given as to whether the people on board this pram had had intercourse with an infected place.

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* In some parts of England (1848-9) the breaking out of cholera in prisons was undoubtedly owing to the transference of prisoners from gaols in an infected locality.—ED. GAZ.

On the epidemy breaking out in St. Petersburgh, the country people engaged at work there, being seized by a panic, fled from the town in dismay, to return to their villages, of whom it is said hundreds sickened and perished along the public roads.

From the evidence we have before us, as to the mode of progression of this epidemy, as observed in all countries and climates, whilst it is impossible to deny the operation of an infectious principle, at the same time we must admit the existence of a peculiar or epidemic state of the atmosphere favourable to the development and operation of the subtle poison in question. Nor is this epidemy singular in this respect: it is the case in small-pox, scarlet fever, measles, &c.

After the disease has shown itself in a town, the rapid manner in which it spreads, precluding, seemingly, the possibility of mediate or immediate intercourse, suggests the idea *whether one case be sufficient to infect a whole town*. In reply to this, I would only remark, that in every town or place where there is an assemblage of human beings, there may be said to be a stationary atmosphere of animal effluvium, produced by continual exhalations from collected filth and exuviæ, into which the morbid poison being once introduced, may, favoured by a peculiar state of the air, act the part of a ferment, and produce the pestilential malaria in question. However this may be, after the epidemy had been some days in Archangel, it seemed as if the whole air had become contaminated by miasm: there were few, indeed, who were not made conscious of this by their feelings: more or less of languor, slight swimming in the head, or giddiness. Coldness of the extremities, with transient cramps and numbness of the great toe, especially at night; watchfulness; a slight nausea coming on occasionally; a tendency to a bowel complaint and to disordered digestion, with a peculiar anxious aguish aspect,—were the symptoms chiefly observed, and which indicated the presence of a poison in the blood. There was a remarkable disposition observed to perspire, which may be viewed as a salutary effort of Nature to eliminate the poison from the system; a check being given to this vis medicatrix naturæ, by exposure to cold, or drinking cold water: the body being heated, especially during the height of the epidemy, a seizure was sure to follow. The relief experienced after a copious perspiration, from the symptoms described above, was too striking to be overlooked by the most careless observer; so that I have no doubt whatever of the poison accumulating in the system when the functions of excretion are interrupted or impaired; nor have I any doubt that the violence of the seizure is in proportion to the quantity or concentration of the poison.

The prophylaxis must be based on this principle,—to keep the depuratory organs in a healthy state, and, where Nature does not appear adequate, as she doubtless is in the majority of cases, to expel the poison, to assist her. We have a parallel case and apt illustration in intermittent fever. How frequently we observe a relapse in the disease, from exposure to cold and irregularities in diet! Some medical writers have traced an identity between epidemic cholera and this disease, whilst others deem cholera a species of typhus. Both parties are decidedly wrong: the cyanosis, irrespective of other very characteristic points, distinguishes this epidemy from every other disease. There exists analogy between these diseases, inasmuch as the blood is contaminated by the presence of a poison, but a poison peculiar to each, which Nature struggles to expel.

It is a strange fact, however, that intermittent fever should be the harbinger of epidemic cholera. In the spring of this year the former disease prevailed epidemically in the town and province of Archangel: it showed itself in the port during a cold, piercing north-east wind, with a frost of 4° of Reaumur (23° Fahrenheit), under the semblance of a severe bronchitis; nor was the first case which fell under my observation diagnosticated until the patient had had several paroxysms. Before the appearance of epidemic cholera, it had entirely disappeared. Now, if any identity existed between these diseases, and they only differed in degree, as some assert, intermittent fever would increase in violence until it ended in cholera, and *vice versâ*. The fact, at least, shows clearly an unhealthy state of the atmosphere: possibly the circumstance of very little snow having fallen during the winter, and the consequently premature exposure of the ground in spring, may have had some connection with it. It was reported that, during the maximum of the epidemy of St. Petersburgh, an extraordinary deficiency of electricity in the atmosphere was discovered: at Archangel, however, on trial, this was not found to be the case.

In the Military Medical Gazette for June, 1848, it is stated that, during the epidemy, a remarkable degree of somnolency was observed in fishes and reptiles. Similar observations have been made by the fishermen of the Dvina (at Archangel), that fishes are scarcely out of their native element than they die, and that they are hardly dead than they become covered by a coating of slime.. All of these stories may be attributed to a love of the marvellous

At St. Petersburgh, insects were observed to be very scarce: at Archangel musquitoes were certainly less numerous than usual, but I ascribe this to the comparative coldness of the season. I have observed, as also did others, that, though on some days the sun was very hot, there was a peculiar coldness in the air, as if the heat and cold were most unequally distributed. During this epidemy there was a surprising immunity from other diseases. When inflammations and catarrhal fevers began to show themselves, we looked upon the event as a crisis. Towards the close, however, I must observe that the epidemy simulated enteritis or bronchitis, the former more frequently: this was so much the case that mistakes were committed in sending the cases which entered the hospital to their respective wards.

[To be continued.]

OBITUARY.

Died, on Saturday, the 8th inst., at his residence, Wavertree, in the 74th year of his age, John Latham, Esq., Surgeon.

On the 15th inst., at 19, Tonbridge Place, New Road, of consumption, Robert Abraham Varicas, Esq., M.R.C.S., late of Woburn Place, Russell Square.

MEDICAL GAZETTE.

FRIDAY, MARCH 23, 1849.

We elsewhere[*] give insertion to a memorial of the Manchester Medico-Ethical Association, on the appointment of a medical in preference to a legal practitioner to the vacant office of Borough Coroner. It is the old controversy revived. We only do the Association justice in saying that their memorial is very temperately expressed; and had the decision rested upon argumentative reasoning, they would have deserved to carry the day in favour of a medical candidate. As it is, however, the legal interest in Manchester has proved too strong, and another triumph must be recorded in favour of lawyers. The emoluments of the office are estimated at £450 per annum; and we are informed that there were no fewer than fifty candidates for the appointment! At a meeting of the Town-council, on the 14th inst., the deputy town-clerk was, as a matter of course, elected to the office.

It does not appear at all probable that the question whether a medical or legal practitioner be better qualified to fulfil the duties of the office of coroner, will ever be settled by an appeal to reasoning. The members of the two professions have made up their minds on the subject in favour of their own brethren; and they appear determined to listen to no argument which is likely to shake their opinions. An excellent legal writer, in a work recently published,[†] says, in reference to appointments to professional offices, "I shall now revert for a moment to one of them—that of coroner, because it is one in which you may have *lay*-competitors, especially medical men. I have often considered which were better calculated for this office, you or medical men; and have no doubt whatever that *you* are; that the interests of justice are likely to be effectually promoted by one trained from his youth to habits of legal investigation; who may reasonably be supposed capable of preserving a calm, impartial, mood of mind; of suspending his judgment, and checking the disturbing approach of passion and prejudice. It is far easier for such persons to acquire a competent amount of that sort of knowledge which is called forensic medicine, or medical jurisprudence, than it is for a layman, be he a medical man or not, to acquire the requisite legal knowledge, to clothe himself at once with legal habits, and exhibit a judicial temper or capacity. But take care to secure this your vantage-ground by an early attention to the leading rules of evidence and of criminal law. You may then laugh at your lay rivals; but otherwise a clever layman may prove a serious competitor."

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[*] Page 524.

[†] Moral, Social, and Professional Duties of Attornies and Solicitors, by Samuel Warren, F.R.S. &c. Page 217.

This may be regarded as the statement of the case in its *legal* aspect. It obviously assumes that every town-clerk or his deputy does not owe his election to borough influence, but to his personal merits and professional qualifications. Thus, the *normal* attorney is considered to be, *ex naturâ officii*, the possessor of those mental qualifications which are commonly met with only in judges of the greatest experience. He is also considered to be possessed of the requisite legal knowledge (of evidence and criminal law), to be clothed with legal habits, and to be capable of exhibiting at once a judicial temper or capacity, &c. Tried by rules of this kind, we think that very few men of either profession, who are likely to offer themselves as candidates for such an office, would be found competent to undertake its duties. We do not say that a well-informed and experienced attorney may not become a good coroner; but the greater his qualifications, in a legal point of view, the more deficient will he be in that kind of medical knowledge which we consider essential to the occupant of the office. A man taken from either profession has something to learn; and according to those who take the legal side of the question, a knowledge of forensic medicine is *sooner* acquired by an attorney than of the law of evidence by a medical practitioner! This is, of course, a mere matter of opinion, and cannot, therefore, be settled by argument.

In the memorial of the Association it is justly observed, that the object of the Coroner's Court is to examine into matters of fact, and not into matters of law; and we think it would be very easy to prove that greater injury to society is likely to result from medical than legal incapacity. The Coroner's Court is merely one for preliminary inquiry; it is not a court of ultimate appeal, and rules of evidence need not, therefore, be so strictly observed in it as in the superior courts. Indeed, it has been recently held, by the learned Chief Baron, that the common practice among coroners of not receiving evidence on oath from persons supposed by them to be implicated in the death of a party, is illegal,—for the reason that before the coroner, no one is in charge or put upon his trial. The Manchester Association might have made a still stronger statement, and have put the question of the alleged legal competency of attornies at once to the issue. We assert that, as a general rule, a greater number of mistakes on evidence, and on points of criminal law, are made by attorney-coroners than by medical-coroners. The proceedings at inquisitions held by attorney-coroners were, until the recent alteration in the law of deodands, very frequently set aside as illegal. A clever barrister, when the necessity arose, could uniformly take half a dozen objections to the proceedings and verdict, any one of which would be held sufficient to quash the inquisition,—showing, therefore, a total absence of legal habits and knowledge, as well as judicial capacity, among those who base their right to the occupancy of the office solely upon the assumed possession of these qualifications.

Of one fact we entertain no doubt. A conscientious medical man, acting as coroner, would have it in his power to make a considerable reduction in the number of inquests; and thus, in an economical point of view, his appointment would be preferable to that of an attorney. The latter functionary would be disposed to suspect foul play in every case of sudden death; and, as it now much too frequently happens, he would hold an inquest quite unnecessarily. A medical coroner might at once reconcile the symptoms preceding death with the suddenness of the occurrence, and, from the medical circumstances of the case, form an accurate judgment that death had arisen from natural causes, and that the case did not demand an expensive legal investigation. Another circumstance is, that an attorney-coroner is never able to make a clear distinction between a competent and an incompetent medical witness; and, where several witnesses are examined, he is rather disposed to be guided by the opinions of the majority! This is a serious obstacle to a correct decision, and often leads to the imprisonment of innocent persons on verdicts which cannot afterwards be sustained in a superior Court.

It is a common opinion that medical men, in claiming this office, are actuated by motives of self-interest; but it will, we think, be easy to show that members of the profession, excepting those who are actually elected, would be injured in a pecuniary point of view, if medical men were uniformly appointed. Medical coroners do not so frequently require the assistance of medical witnesses as attorney-coroners; and it has become a subject of remark that, in districts where medical men hold this office, the services of practitioners are very generally dispensed with: they are rarely summoned unless a post-mortem examination be required, or the case be likely to excite great public notoriety.

The circumstances which appear to us to favour the appointment of medical men to the office of coroner, will of course have no influence where local interests are concerned. There must be a different mode of appointing coroners, before the fitness of individuals from their professional knowledge or experience, can become the true basis of the appointment. In the meantime we hold our opinion that, considering the respective medical and legal duties required, a well-educated medical man is better qualified for the office of coroner than a gentleman whose only qualification is that he calls himself an attorney-at-law.

A case has just been tried at York, which is well calculated to show the facility with which an atrocious criminal may escape the punishment due to his crime, by reason of the lax method in which criminal prosecutions are conducted on the part of the Crown. There is in this country no public prosecutor; and the fees allowed for Crown-prosecutions are so small as not to command that skill and talent which are essential to the management of an intricate criminal case. Hence the conduct of the proceedings is entrusted to the hands of magistrates' clerks and other inexperienced persons. The result may be easily foreseen. In a question affecting the life of an accused person, when the evidence for the Crown is often formed of a series of links, each one of which must be in itself perfect, a slight omission or oversight may lead to the acquittal of a criminal. Public justice is thereby defeated, and the county rates are increased to a degree to frighten rural magistrates from their propriety. We may inform our readers that some of these prosecutions which end in nothing, cost a county from one to three hundred pounds! This evil is, however, small, compared with the bad moral effect which such an inefficient state of the law is likely to have upon the ignorant members of our provincial population. A man may now poison a neighbour, and calculate very reasonably upon a fair chance of escape.

A man named Holdsworth was lately tried on the charge of murdering his wife by administering arsenic to her. There was no doubt that the woman had died from the effects of arsenic, and the only evidence required to bring the proof of administration clearly home to the prisoner, was the production of the *original* deposition of the deceased before her death. The attorney tendered as proof a *copy*, which was of course rejected; and the original could not be procured, nor could any satisfactory evidence respecting the cause of its non-production, be tendered. The prisoner was therefore acquitted on a verdict of Not Guilty, although a verdict of Not Proven would have been more consistent with the truth. He was subsequently arraigned on the coroner's inquisition, but again acquitted on the plea of *autrefois acquit*, the learned judge observing that "in this particular instance justice might have been defeated by an act of carelessness; yet, if any other course were adopted, the case might form a precedent very prejudicial to the interests of justice." The punishment inflicted on the attorney was merely a refusal of the costs of the prosecution!

We do not think that the attorney alone was to blame in this matter. Is it the practice with learned counsel for the Crown to go into Court thoroughly ignorant of the evidence by which they are to establish a charge of murder against a prisoner? Gentlemen brought up "in habits of legal investigation" must of course know that a copy of a deposition is no evidence when the original can be produced. The original deposition of the deceased was unquestionably a material part of the case, and yet they proceeded to trial with a copy! It is clear, therefore, that on this occasion they trusted to the chance of the attorney having his proofs duly arranged; and the carelessness of this individual has led to the defeat of the law. We know of no case which shows more strongly than this, the necessity of appointing a public prosecutor, with a body of experienced attornies, well versed in criminal proceedings, to conduct these cases on the part of the Crown. It is absurd to talk of the terrors of the criminal law to the wrongdoer, when its administration is thus left to be a mere game of chance.

THE reports in the French medical journals leave no doubt that the malignant cholera has at length shown itself in Paris. The first case occurred on the 9th inst.; and up to the 20th inst. here have been forty-six cases and twenty-one deaths. Many of the fatal cases have been among hospital patients worn out by chronic disease.

The Cholera Committee in Paris have, we find, followed the steps of our Board of Works, in issuing their popular instructions; and have recommended that the poorer classes should breathe a *pure atmosphere*, and provide themselves with *flannel*. The editor of *L'Union Médicale* reasonably asks whether pure air is to be found in the cloacal dwellings of the poor; and those who know Paris will bear us out in the statement, that, in the centre of this city, there are some deep gullies, called streets, the air of which is as impure as that found in our common sewers! The poor are further recommended to clothe themselves in flannel, when they have not the means to purchase a loaf of bread! It is assuredly better to give no advice at all than to recommend these hygienic impossibilities.

A CASE of some interest to the medical profession has been recently tried at the Dorchester Assizes. A man of the name of Squires has been convicted of manslaughter for causing the death of a child, by inoculating it with the small-pox. The Vaccination Act (3 and 4 Vic. c. 29) has the following clause in reference to inoculation :—

> VIII. "And be it enacted, that any person who shall, from and after the passing of this Act, produce or attempt to produce in any person by inoculation with variolous matter, or by wilful exposure to variolous matter, or to any matter, article, or thing impregnated with variolous matter, or wilfully by any other means whatsoever produce the disease of small-pox in any person in *England*, *Wales*, or *Ireland*, shall be liable to be proceeded against and convicted summarily before any two or more justices of the peace in Petty Sessions assembled, and for every such offence shall, upon conviction, be imprisoned in the common gaol or house of correction for any term not exceeding one month."

It will be perceived that the clause does not refer to the *death* of a person so inoculated, and the ingenious objection taken by Mr. Edwards, counsel for the prisoner, will now be understood.

Before the commencement of the trial Mr. Edwards objected that no indictment would lie. By 3 and 4 Vic. c. 29, it was enacted that any person who by inoculation with variolous matter should produce the disease of small-pox in any person in England, should be liable to be proceeded against and convicted summarily at petty sessions, and be subject to imprisonment for one month; and by several cases it had been decided that wherever a statute prohibited, under a penalty, an act which was before lawful, and the manner of proceeding for the penalty was contained in the same clause which prohibited the act, the mode of proceeding given by the statute must be pursued, and no other; that in this case, if the prisoner could be convicted upon this indictment, he would be liable to two punishments for the same offence—one under the statute and the other by this indictment.

Lord DENMAN said that the point had been considered by himself and Mr. Justice Williams, and they were of opinion that the indictment would lie, but if he considered it necessary, he would reserve the point.

Mr. KARSLAKE opened the case, from which it appeared that the prisoner, at the express request of the parents of the deceased, a child of three years of age, had inoculated him at a time when the small-pox prevailed in the neighbourhood. The child died about fourteen days afterwards from small-pox.

After the examination of the first witness, the prisoner pleaded "Guilty."

Lord DENMAN, in passing sentence, said he was very glad this indictment had been preferred, and he hoped it would be made generally public, that if a party ventured to inoculate another he was not only liable to imprisonment under the statute, but in case death ensued, he was liable to be indicted for the crime of manslaughter. He considered it a very grievous offence, as it might not only occasion the death of the party inoculated, but thousands besides, as it was impossible to forsee where the mischief would end. However, taking into consideration the extenuating circumstances which had been urged by the prisoner's counsel, and the punishment which the prisoner had already undergone, he thought he might be justified in passing a nominal sentence, which would be imprisonment for two days.

The only point requiring notice in this case is the objection taken to the indictment by the counsel for the prisoner. The act of the prisoner clearly led to the death of the child: it was an unlawful act, and contrary to the express provisions of a statute. If this does not constitute manslaughter we are at a loss to know the meaning of the term. The attempt to procure abortion is an offence punishable by statute; but if the death of a female result, the offender is put on his trial for murder *or* manslaughter,—the minor being merged in the major offence. The learned counsel's argument was simply this:—A man may commit murder or manslaughter with impunity, because the act which led to the crime, when unattended by fatal consequences, is punishable by statute!

The punishment in this case was quite inadequate to the offence if, as the learned judge remarked, it was of a "very grievous" nature, and might not only occasion the death of the party inoculated, but of thousands besides. Such a sentence is not likely to deter others from secretly resorting to the dangerous practice of inoculation.

It appears from a statement made by Lord Eglintoun in the House of Lords on the 20th inst., that in the estimates of the present year, there is entered a charge of £8700 for the subsistence of the Poles, and for the expenses of medical attendance upon them. It was further stated that there were medical attendants provided for these refugees at London and Portsmouth, together with medicines when required. The noble Lord significantly observed that he declined alluding to the diseases for which that medical attendance and assistance were required; but he moved for certain returns which he intimated would satisfy their Lordships, that a very improper use was made of the money annually granted by the nation. Lord Stanley put the case more plainly in stating that the charge was, that the assistance given to these industrious revolutionists, did not consist so much of money to relieve their distress, as of medical assistance given to disease, not arising from distress, but from vice and profligacy.

Considering the mode in which a sick English pauper, with a wife and family, is dealt with, and the stinted medical attendance which is provided for his relief, it appears to us that the inquiry made by Lord Eglintoun was of a very proper nature. The financial part of the return has, however, alone been conceded by Government. The medical statistics have been refused without any good or sufficient reason, since the names of the recipients were not demanded. That there must be something in the charge, is clear from the peremptory refusal of the medical returns; and it is only a reasonable inference that the nation pays to a greater extent than it is desirable to make public, for the relief of these mendicants from the results of their own misconduct.

VENEREAL WARTS.

The most convenient and complete, and least painful mode of removing these, was found to be by strong nitric acid, applied only to the excrescence. It destroys it so entirely as to cause its separation in a short time, without injuring, if carefully applied, the surrounding parts.—*American Journal of Medical Sciences*, January 1849.

Reviews.

A Brief Sketch of the Hounslow Inquest, &c.; with Remarks. By H. G. Day, Surgeon. Pamphlet, 8vo. pp. 19. London: Simpkin, Marshall, and Co. 1849.

Mr. Day, it is well known, took an active part in the inquest on the body of the soldier, who was alleged to have died at Hounslow, in July, 1846, from the effects of military punishment. In reference to certain points, his conduct was impugned, but as it appears to us, most unjustly. As a specimen of the ethical rules which govern some medical men, we may state that a coarse attempt has been made to injure him in his practice, on account of the view which he took of the cause of death. If any vindication of his conduct be required, this pamphlet, which is written in very temperate language, furnishes it. The condition of the muscles of the back of the deceased, appears to have been the great *cheval de bataille* in this case. In the medical opinion, drawn from the softened state of the spinal muscles, we are inclined to think that sufficient allowance was not made for the effects of decomposition. Bruised parts of the body take on the incipient changes which lead to putrefaction much more speedily than those which are sound; and the body of this man had been exposed under circumstances and at a season of the year, which must have rendered it difficult to form an unobjectionable medical opinion. Hence we consider that those who looked upon this change in the muscles, as the result of decomposition, were correct. At any rate the statement of facts before us is sufficient to prove, to all parties unconnected with the flogging case, that Mr. Day acted throughout in a fair and open manner; and that the professional opinion which he gave, was such as might have been given by any conscientious medical practitioner.

Having thus expressed our view of the case, we must at the same time state, that nothing could justify the coarse and scandalous libels published in the *Medical Times* on the conduct of Mr. Wakley. That these libels were dictated by bad personal feeling, concealed under the pretence of protecting the public and profession from the tyranny of coroners, &c., must be clear to all who have read them, or who have seen the report of the trial. It is therefore satisfactory to find that the jury marked their sense of these libels, by returning a verdict with heavy damages against persons who had been in the habit of boasting weekly that their publication "was free from the control of all booksellers and publishers." In fact, it appears to have been under no sort of control. The former editor was like Ishmael; his hand was against every man, and every man's hand against him.

Lectures on the Study of Chemistry, and Discourses on Agriculture. By John Davy, M.D., F.R.S., L. and E., &c. Small 8vo. pp. 291. London: Longman and Co. 1849.

One half of this little volume comprises four lectures on the Uses of Chemistry, and on the Atmosphere, Earth, and Ocean; while the other half is occupied with five discourses on agriculture in its chemical relations. These lectures and discourses were delivered by the author at Barbadoes, during his recent residence in that island. While they are essentially of a popular character, they are so drawn up as to bring before the reader many interesting chemical facts and theories in a plain and intelligible form. They embrace chemical philosophy as much as chemistry. The selection of illustrations is judicious; and although some portions of the lectures bear the impress of a local character, they cannot fail to excite general interest. We have great pleasure in recommending this volume as an excellent popular introduction to chemical studies.

Synopsis of Percussion, Auscultation, and other methods of Physical Diagnosis. By Ray Charles Golding, M.D. 12mo. pp. 62. London: Renshaw. 1849.

Dr. Golding tells us in his preface, that his object in publishing this synopsis is to furnish the student and practitioner with an epitome of the methods of physical examination for *clinical* purposes. It is not intended to teach, but to refresh the memory of the practitioner. From our examination of this little book, which may be carried in the waistcoat-pocket, we do not hesitate to recommend it as a useful clinical guide.

Proceedings of Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

J. M. Arnott, Esq., President.

Reports and Statistical Tables of the Cases at the Cholera Hospital of St. Giles's in the Fields, in 1832. By the late Richard Pinckard, M.D., Physician to the Bloomsbury Dispensary, and Fellow of this Society. [Communicated, with Explanatory Remarks, by J. S. Streeter, Fellow of the Society.]

Cases of Asiatic cholera appeared in the parish of St. Giles's in the Fields in the commencement of 1832. A cholera hospital was established for their reception, and placed under the superintendence of the late Dr. Pinckard and Mr. Walker. Between the 15th of February and the 29th of May, a period of fifteen weeks, 131 patients were received into the hospital, or treated at their own habitations. The first table gives the number of cases admitted, and the number of deaths in each of these fifteen weeks. The average number of cases per week was about nine; the number of deaths about 4.5. The total number of cases was 131, and of deaths, 69. No cases were admitted between the 29th of May and the 26th of June, when the disease re-appeared. During the succeeding sixteen weeks (from the 29th of June to the 16th of October), as is shown in the second table, 394 cases were admitted, and 182 deaths occurred; the average of cases per week being twenty-six, and of deaths, twelve. The third table gives the duration of the cases, whether fatal or not fatal. The fourth table gives the numbers of deaths and recoveries amongst patients of different ages, and of either sex respectively. The proportion of recoveries was in both sexes the same, but varied much according to the age of the patients, being highest between the ages of ten and twenty; lowest in the most advanced periods of life. In the fifth table, the cases preceded by diarrhœa are distinguished from those not preceded by that symptom, and the proportion of recoveries is shown to have been much greater amongst the cases of the former class. In the sixth table, 124 cases observed during the spring months are divided into those admitted "in the stage of impending collapse," and those admitted "in the stage of actual collapse," and the proportion of deaths and recoveries in each of these classes of cases is shown; the numbers of the patients recovering "with fever" and "without fever," as well as the numbers dying "in collapse," "in reaction," and "in fever," being likewise specified. The seventh table gives the same facts with respect to 381 cases which occurred in the autumn; and the eighth table is a summary of the same facts with respect to the whole number of 505 cases. It is shown, that of 237 admitted in the state of "impending" collapse, only thirty-four died (twenty-one in collapse, seven in reaction, six in fever), while 203 recovered (175 without fever, twenty-eight with fever); and that of 268 admitted in the state of actual collapse, 219 died, (195 in collapse, fifteen in reaction, and nine in fever), while only forty-nine recovered, (twenty seven without fever, and twenty two with fever).

Mr. Streeter stated that the fellows of the Society who wished to know the manner in which Dr. Richard Pinckard had noted the individual cases from which this table had been constructed, would find the first four (as officially reported by himself to the Council of Health) recorded in the *Cholera Gazette*, No. IV., page 142. He believed no others existed, but they sufficed to show the care and range of his inquiries. With respect to one fact connected with cholera, and so clearly determined by the tables, he himself thought it had never received that attention from the profession which its great importance merited,—viz., the large proportion of seizures in which the symptoms of collapse were not preceded by diarrhœa. According to his own experience, collapse occurred not in one uniform manner in all cases, but in various ways. First, there was a class of cases in which the collapse resulted from the direct influence of the poison. Whether this poison was of malarious or human origin, as he did not then wish to raise the question of contagion, he should not now consider; but such cases of direct poison collapse might be attended by no vomiting or purging, or by next to none, and such attacks he believed would prove rapidly and universally fatal. In another class the collapse was produced by the poison, and attended, not preceded by vomiting and purging, while in a third class the collapse was preceded by diarrhœa of several hours' or even days' continuance, and might fairly be attributed, in part to exhaustion from previous diarrhœa, and in part, but not wholly, as in the former classes, to the direct influence of the cholera poison itself. These varieties of collapse should not be lost sight of in conducting the treatment. With regard to the state of the blood, he was not aware that chemistry had yet shown much more than what Dr. O'Shaughnessy had determined in the epidemic of 1832—viz., the loss of water and of normal salts from the serum, and the presence of these in the evacuations. The specific gravity of the serum is therefore increased. In studying the treatment, he had himself tried to find out the mode in which Nature brought about reaction, and observation at the bedside had convinced him that reaction from collapse never took place naturally or from treatment, without the occurrence of full vomiting. The history of successful cases fully corroborates this view. Visit after visit the unconscious narrator complains of its continuance, and says, "Better, except the vomiting, which still continues." Various emetics have been employed. At one time mustard was most in fashion, but there are objections to its general use. Salt was extensively employed, and among the ignorant and prejudiced, has the merit of being considered a harmless and not a poisonous remedy. Tartar-emetic had its advocates, and various other agents. Even cold water acts in this way, and where it suffices to keep up the vomiting produced by a salt emetic, he should be disposed to regard it as the best remedy. In many cases, either with or without small doses of salines, as the carbonate of soda, and the muriates of soda or potass, its employment will keep up vomiting at such intervals as are necessary to bring about and sustain reaction. He witnessed an instance of recovery, where seventy single pints were taken, and for the most part rejected within the twenty-four hours. There were, however, a few cases in which, after vomiting had ceased before reaction was established by cold water, the vomiting was reproduced and sustained by the addition of stimulants, the carbonate of ammonia and liquor ammoniæ fortissimus, in twenty and thirty drop doses; but such instances were certainly very few.

Dr. **Webster** said, from all he could understand, the mortality met with at the St. Giles's Cholera Hospital appeared much greater than the ratio throughout England. In the spring epidemic, detailed in the paper, the deaths were nearly two in every three cases; whilst during the autumn, the greatest number of fatal cases took place amongst old people and females. Hence the mortality in the St. Giles's district seems to have been as high in 1832, as it proved in Scotland, where more than half the patients attacked with cholera died; but in England the proportion was one death in three and a half patients affected. The severity of cholera in St. Giles's might easily be accounted for by the character of the population, and by the filth and insalubrity of that locality. He (Dr. Webster) had visited this hospital in 1832, as also the neighbourhood; and was by no means surprised at the high mortality now reported. Although no notice was taken in the paper respecting the general mortality of London when epidemic cholera formerly prevailed, he (Dr. Webster) would remind the Society that it had materially decreased. This fact was well known, and had been remarked at the time. It was therefore interesting to know that a similar result, with regard to the actual mortality, had recently taken place, not only in the metropolis, but throughout England. In proof of this opinion, he (Dr Webster) would mention that, during twenty weeks, ending the 17th of February inst., the total deaths from all diseases in London amounted to 23,415; whereas, during the same number of twenty weeks, ending the 19th of February, 1848, the aggregate deaths were 29,220;—being an increase of 5805 cases ending fatally, or 24·79 per cent. in favour of the present season; notwithstanding the remarkable fatality of scarlatina, to which he (Dr. Webster) had alluded at the last meeting of the Society,—besides the existing cholera. But the recent diminished rate of mortality in London was chiefly remarkable in diseases of the respiratory organs, including influenza, which generally prove so fatal in cold and winter weather. For instance, during the twenty weeks terminating the 17th of February inst., as already quoted, the deaths in London, by that class of diseases, were only 3869; whereas, during the parallel twenty weeks, ending the 19th of February, 1848, the deaths from the same causes amounted to 8267, being an increase of 4398, or 113·67 per cent. in the previous, more than in the current season, which shows, although since the 1st of October last upwards of 500 persons have died from cholera, and 2253 by scarlatina, the present year has not been, on the whole, insalubrious. Notwithstanding the author does not allude to two important points connected with the present epidemic—viz., whether cholera is contagious, or is an entirely new disease, he (Dr. Webster) would nevertheless reiterate the opinions he had maintained in 1832, when cholera prevailed:—1st. That the complaint was well known to ancient as also modern authors, both English and foreign; and, 2ndly, cholera is not contagious. The last point is certainly still a *vexata quæstio* with some physicians who believe in its contagious character, or, like Dr. Peacock, had changed their opinion; but he (Dr. Webster) was more than ever confirmed in his previous convictions. On these questions it was most gratifying to observe, by the lectures just published of one of their most distinguished fellows, and a recent president of the Society—namely, Dr. Chambers, that the same views were entertained by so experienced a practitioner. As no allusion had been made in the paper to the treatment of cholera, he (Dr. Webster) would not enter upon such topics, but before sitting down, must, however, repeat, that there existed no doubt in his mind respecting the epidemic cholera, now prevalent, being neither a new disease nor contagious.

Dr. **Peacock** had recently had his attention attracted to the subject under discussion, in consequence of the children of the Holborn Union, removed from Tooting, having been sent into the Royal Free Hospital. In all, 155 children were received into the hospital; and of these, eighty-four were more or less seriously indisposed. Nine only, however, presented decided symptoms of cholera; thirty others had severe diarrhœa, vomiting, and prostration; and the remainder had only diarrhœa. The attack was not preceded by any marked premonitory symptoms, and was ordinarily sudden. The children were observed to droop, and after one or more of the usual rice-water evacuations, and some vomiting or retching, they went rapidly into the stage of collapse. In one case the symptoms were most marked in less than half an hour after the seizure of the child. In all the cases, however, there must have been an entire emptying of the contents of the alimentary canal before the serious symptoms supervened; and this seemed generally to have taken place during the night, while the vomiting, and other urgent symptoms, did not occur till the morning. Of the cases characterised by severe vomiting and diarrhœa, two only subsequently passed into the algide stage. Though from the youth of the patients it was difficult to speak positively on this point, the urine was believed to have been entirely suppressed, in all the fatal cases, for some time before death. Cramps occurred in only two cases. The disease proved fatal in four cases, death occurring, in these, in five, six, eight, and sixteen and a half hours from the accession of the serious symptoms. On post-mortem examination the appearances detected were those which ordinarily characterize cholera. The brain and its membranes were extremely congested. The lungs were imperfectly expanded, and in the cases which proved fatal at the earliest periods, were unusually bloodless; while their larger vessels, and those of the body generally, were engorged with blood of the semi-coagulated or tarry character usually described. There was much blood, some of it feebly coagulated and decolourized on the right side, but mostly semi-fluid; and there was also some in th left ventricle. The mucous membrane of the stomach and intestines was generally pale and thickened, though not altered in consistence. The various mucous glands, and especially those of Brunner in the duodenum, were very large. This enlargement was most marked in the cases which proved fatal at the earliest period, and in those which were examined soonest after death. In cases of cholera in older persons, the enlargement of the glands is not generally found; and it does not exist in those which survived for several days; so that it could not be regarded as essentially a morbid state. He had recently examined the body of a boy who died shortly after having sustained severe injuries, and found, in his case, the glands as large as in any of the cases of cholera. The alimentary canal contained more or less of a pultaceous material, which, on microscopic examination, proved to consist of epithelium. The urinary bladder was contracted, the ducts of the liver were empty, and the gall-bladder contained viscid bile. The severe cases of the disease among the children were so rapid in their progress, that it was of great importance to ascertain the period of first accession of the symptoms; and with this intention frequent examinations were made. The cases which were seen at their commencement in no instance passed into the stage of collapse. In the algide cases, the greatest reliance was placed upon the application of heat and moisture to the surface. The patients were wrapped in blankets wrung out of hot water, and on which turpentine was sprinkled; hot bottles were then placed in different parts, and the child was again wrapped up in dry blankets. They were then allowed to drink freely of cold water, generally containing a small quantity of brandy. Stimulating and anodyne liniments and sinapisms were also applied. In one case galvanism was applied, and with the most beneficial effect. A little girl, of eight years old, was apparently dying: she lay with her eyes closed, and insensible to what was passing around her; her breathing was very imperfect, and the pulse imperceptible at the wrist; and a thermometer under the tongue indicated only a temperature of 88°. Slight shocks were passed, at short intervals, for about a quarter of an hour, from the side of the neck to the epigastrium, with the view of stimulating the diaphragm through the medium of the phrenic nerve. Immediately on the application being commenced, she opened her eyes, and complained of the pain: she breathed more fully, the pulse again became perceptible, and the pulse rose to 92°. From this time she gradually rallied, and was well in a few days. In this case the child's life was to all appearance saved by the application of the galvanism; but in another case in which he tried it, while some benefit resulted, the improvement was only temporary. Dr. Peacock said, in conclusion, he could not dismiss the subject without alluding to the question of contagion. Before his recent experience he had been inclined to the view that the cholera was never contagious; but he was now compelled to believe, that however it might ordinarily spread, it was capable of being, under unfavourable circumstances, propagated by contagion. The children from Tooting were sent into the hospital on the 5th of January; and on that evening, and on the 6th, 7th, and 8th, about fourteen women, and four male attendants, were sent to take charge of them; the number of persons who, during the first fortnight, were directly in communication with the children being probably about twenty-five or thirty. On the 13th, a man who had been sleeping in the boys' ward was seized with symptoms of cholera, and died of the disease in the Holborn Union; and from this time to the 21st, eleven other male or female attendants were attacked by the epidemic; and of these, one died with all the symptoms of algide cholera. Of these cases, all were of a serious description; and of the other regular attendants on the children, one only, so far as I am aware, escaped entirely all symptoms of the disease. During the same period that, as now stated, twelve out of eighteen or twenty of the regular attendants on the children were thus suffering in the part of the building appropriated to them, there were at least fifty or sixty persons in wards not many yards removed from the others, but which had little or no communication with them, who had no symptoms whatsoever of the disease. The case Dr. Peacock regarded as strongly supporting the view of cholera being capable, under certain circumstances, of being diffused by contagion, or, more properly speaking, by infection. But the case was yet more stronger than this: from the first that the children were in the hospital, free intercourse existed between the Holborn Union house and the wards. Several nurses, after being a few days in the hospital, returned to the union; and men who slept at night in the union were all day in the boys' ward. On the 13th—on the same day that the man before referred to was seized—another man was taken in the union with cholera, and died; and from this time Dr. Peacock understood that many deaths from cholera had occurred in the establishment.

Dr. Baly alluded to the relation subsisting between the diarrhœa which precedes the collapse state of cholera and the cholera itself. Is this "precursory" diarrhœa really a part of the disease—in fact, its premonitory stage? or is it a distinct affection, which merely predisposes the patient to be attacked by that formidable malady? The former view of the question is the one almost universally adopted. It seems to be further generally admitted, that the full development of the cholera attack may be easily prevented by administering the ordinary remedies for diarrhœa—opiates and astringents, especially opium with lead—in this premonitory stage. His (Dr. Baly's) own experience of the disease, as it had shown itself in Milbank Prison, did not satisfy him of the correctness of these views in all respects. He had observed three classes of cases which differed from each other in respect of the state of the bowels previous to the full development of the cholera attack. First, there are those most severe, and generally fatal, cases of the disease, where, in the course of two, three, or more hours, the canal empties itself by two or three fæculent evacuations, and then the stage of complete collapse suddenly intervenes. In a second class of cases, the development of the disease is more gradual. For one, two, or three days before collapse is established, there is diarrhœa, the evacuations being at first fæculent, then gradually more and more serous in their character, and deficient in bile, till at length they are white or colourless; and this diarrhœa has generally been attended with increasing scantiness of urine, occasional vomiting, and sometimes very slight cramps. Now, in both these classes of cases the diarrhœa clearly belongs to the cholera as much as do the symptoms which mark the stage of collapse. But no fact that had come under his observation led him to believe that the remedies which check ordinary diarrhœa, arising from irritation or slight inflammation of the mucous membrane of the intestines, exert any well-marked influence over this true premonitory diarrhœa of cholera. In a third class of cases, looseness of the bowels more or less severe, presenting nothing unusual in its characters, and from time to time checked by remedies, has existed for some days, perhaps weeks, and then a change in the symptoms has taken place: the evacuations have become serous; sometimes vomiting has occurred; the skin has become lax, the countenance depressed, and in a few hours, or in a day or two, the cholera collapse has followed. Now, in these cases it has seemed to him (Dr. Baly) that the first diarrhœa, which existed so long, and showed itself amenable to ordinary remedial agents, was to be regarded, not as part of the cholera, but as a distinct affection, which had rendered the patient susceptible, or more susceptible, of the cholera poison. If ordinary diarrhœa has this predisposing influence (and that it has he did not doubt), the importance of checking the complaint as early as possible could not be denied. In this way cholera may be, and (Dr. Baly believed) has been prevented. But still the cases of this kind are not, according to his observation, sufficiently numerous to explain the fact, that the prevalence of cholera in a particular locality has sometimes undergone a great and almost immediate diminution, on measures being taken to discover every case of diarrhœa amongst the population, and to administer to the persons thus affected, opiate, aromatic, and astringent remedies—a fact of which several instances have been published. It is, he thought, not yet proved, that a real relation of cause and effect, or any other relation than that of mere coincidence, has subsisted in these instances, between the adoption of preventive measures and the sudden decline of the epidemic; for the history of the disease teaches us that its prevalence in a particular locality is often not only of very short duration, but is also frequently as sudden in its cessation as in its rise. With reference to the treatment of cholera when fully developed, he could not boast of greater success than others who had had to deal with this formidable malady. The system is poisoned, and till we discover a specific which shall neutralize the morbid poison, we must treat the effects it produces in the body just as in typhus fever we treat merely the effects of the typhus poison. But in the treatment of cholera, we are at a greater disadvantage than in the treatment of typhus, inasmuch as the effects of the typhus poison are in great part local inflammation, which may be moderated by means of remedies with which we are familiar. The powers of the system in typhus, though depressed, answer more or less readily to the influence of stimulants, and nourishment can be introduced into the blood-vessels; while in cholera the local effects are such as we know not how to control, the strongest stimulants have comparatively little influence in rousing the system from its state of depression, and the natural process by which nutriment is conveyed into the blood is interrupted. He (Dr. Baly) had tried the various known remedies and plans of treatment that had been recommended, but with results so little satisfactory that he was almost disposed to say (though it must be understood with some limitation), "the less that is done for the patient, the better his chance of recovery." At all events, he was satisfied that some of the more energetic methods of treatment tended to hasten the fatal termination of the case. Much good, however, was to be done by milder measures. Warmth, externally applied, since it is favourable or necessary to the organic chemical functions naturally going on in the body, is, he believes, an important part of the treatment, aiding the system to resist and throw off the poison. But the degree of heat should be moderate, for too much heat greatly aggravated the distress of the patient, and appeared to produce no good result: it heated the body, but did not effectually rouse its vital powers. The free administration of cold water was indicated not only by the thirst suffered by the patient, but also by the known state of the blood; for this fluid is drained of its watery part, and till water is applied to it, cannot serve its all-important purposes in the body, and can, indeed, scarcely circulate. He gives water, then, with the hope that a part may enter the blood-vessels, and not with the object of exciting vomiting. As a mere palliative of symptoms, chloroform had been most serviceable. Administered by inhalation, it immediately relieved all pain and spasm, and sometimes for a time checked the vomiting. The comfort it in some cases afforded the patient was most remarkable. These were the only measures of which the uses seemed (to Dr. Baly) indubitable. A small portion of port wine was generally added to a part of the water his patients had given them to drink, but whether it exerted any influence for good or evil was doubtful. In some of the milder cases, a large blister had been applied over the abdomen, and this appeared in some instances to cause an early restoration of the urinary secretion. Dr. Baly subsequently stated that he had employed the injection of saline fluids into the veins in six cases, but in no case with the result of saving the patient. The first effect was in some instances as remarkable as in the cases treated in Edinburgh in 1832. The breathing, which had become spasmodic and interrupted, became regular and free; the pulse returned; the natural colour and warmth of the surface were restored, &c.; but in a short time the collapse returned, and although a fresh revival of the system was produced by the injection of a fresh quantity of saline fluid, the patient ultimately sank and died. The salts used were in some cases the chloride of sodium, with phosphate of soda. It might be that this method of treatment would be improved, and eventually prove highly useful, but the results of experience were at present decidedly unfavourable to it. He might mention that he had tried the administration of large doses of calomel, and in one case gave five doses of ten grains in each, and five doses of a scruple in each, but no perceptible effect on the course of the disease was produced. After death, the greater part of the calomel was found enveloped in mucus in the stomach: a small portion only had passed into the duodenum.

Dr. Copland, in 1841, had paid much attention to the question as to whether cholera was an infectious disease. He had at that time free access to the reports on the disease, sent by surgeons in India to the directors in London, from the year 1817 to 1828. The perusal of these documents had convinced him that the disease was an infectious one. Whatever the conclusions arrived at by the various authors of these reports, the facts were undoubtedly in favour of infection. With respect to this point, Dr. Copland referred to the labours of Sir William Pym, and his recommendation to the Board of Health in 1843, of isolating the infected persons. Dr. Copland believed that this proceeding was the cause of the comparative small mortality which had taken place. He referred to the great noise which at present prevailed about the removal of noxious exhalations which might affect persons with cholera; he believed that more good was to be done by not allowing the sick to infect the healthy. When the disease did spread, it was from overcrowding, and the visiting of the sick by their neighbours. It was found, in the Irish and Scotch fishing villages, that the disease had spread in a direct ratio to the communication between the sick and the healthy. With regard to the treatment, he had in 1832 recommended the application of hot wet blankets sprinkled with turpentine. This plan he still recommended in infants and young persons, but in the stage of collapse in old persons it has not been found of much service. From the few trials he had made of Stevens's plan of treatment by salines, he was convinced that it merited a more extensive employment.

Mr. **Buck** had not seen much of the disease since October, when about forty persons affected with it were admitted on board the *Dreadnought*. Of these, twenty-one died. The disease had been remarkably fatal, seeing that, with the exception of six persons, all the patients had been strong, healthy men, living on wholesome food, and not subject to privations. The six alluded to had been in the hospital-ship for six months previously. He had seen much of the disease in 1832 in the same class of men. The present disease was of a different type to that, for in the present epidemic the greater number, indeed all but six, had died, not in the stage of collapse, but of some consecutive affection—not fever, but a kind of oppression and coma which presented themselves after the patients appeared convalescent. These symptoms were almost invariably attended by suppression of urine. The coma was doubtless the result of the presence of urea in the blood. He had also observed that the stage of collapse varied from that of the former visitation; the cramps were not so severe, and though the surface was very blue, it was not so cold. The heat of the body was also easily restored by the application of warm blankets, &c., to a temperature of 90°, whilst a thermometer placed under the tongue did not rise beyond 78°. In the late cases, perspiration had been entirely absent, whilst in 1831-2 it had been enormous; there was also less shrinking and collapse of the features. The duration of the disease was longer in this than the last. With respect to the treatment, he could add nothing to what had been advanced by Dr. Baly. From his own experience he should say, that in neither epidemics had medicine had any control over the disease; and in no case that he had seen did it appear to him that any good had been done by the means employed. The only exception to this was, that chloroform certainly did, whether applied externally or given internally, have a most beneficial effect in relieving the spasms and cramps, but it had no control over the course of the disease. It had seemed to him that the principal force of the disease had fallen on the kidney, and the restoration of the secretion of this organ would prevent a fatal result, but, then, no remedies applied for this purpose had been of any avail. It was observed in his cases, that after the urine had been suppressed, the first water passed afterwards was always albuminous, and accompanied by casts of the tubuli uriniferi, showing that the epithelium lining them had been thrown off. On this occasion he should say that the disease was one of the kidneys as much as of any organ. With respect to the pathology of the disease, the glands of the small intestines had been found, when the patients died in the stage of collapse, to be very much enlarged, with signs of great congestion of the mucous membrane. He had also noticed another symptom in the late epidemic, which, when present, had invariably proved fatal; this was, a discharge of blood from the intestines. After death, in these cases, considerable patches of ecchymosis were discovered in the large and small intestines, accompanied by a coagula. In these cases the mucous membrane, after a time, became gangrenous. He showed some morbid specimens of the disease.

Mr. **Streeter** had been present in two instances where the injection of saline fluids into the vein of the arm was practised in the St. Giles's Hospital, but in both cases without the slightest alleviation. He had seen the warm bath, the hot-air and spirit-vapour bath, by means of the basket apparatus under the bed-clothes, employed without producing the slightest reaction. He had employed mustard extensively over the skin of the abdomen, chest, and limbs, and although its specific action on the skin followed, it failed to arrest the progress of the collapse: nothing but vomiting, recurring at intervals, retarded or removed that. He had seen phosphorus employed, and in two instances had found the pills in the bodies after death. In one, a rapid case, they had not passed the stomach. In the second, a protracted case, one of the pills was found, curiously enough, in the appendix vermiformis. He had been present at only a few post-mortem examinations, as he always believed cholera communicable, but the only constant appearance that he could attribute to the disease was an increase of vascularity in the mucous membraneof the intestines. The premonitory diarrhœa he had not found to yield to simple and ordinary remedies. During the prevalence of cholera, every bowel complaint should be regarded as premonitory, and receive the most active treatment. His usual remedies were, superacetate of lead, powder of opium, calomel, and capsicum, of each one grain in a pill, to be administered after each action of the bowels, with a dose of acetate of ammonia and nitric ether. In conclusion, he would observe that he felt assured of the infectious nature of cholera, and believed that it was very frequently communicated by the medium of clothes, as well as by personal exposure.

Dr. Garrod, on being called upon by the President to give the Society the results of his researches into the condition of the blood in cholera, stated that in general they accorded very much with those of Dr. O'Shaughnessy, made during the epidemic in 1832. Dr. Garrod had always found that the blood in cholera exhibited characters different from those which presented themselves in any other disease. In the first place, the specific gravity, both of the blood itself, and also of the serum, was always found to be considerably increased; that of the blood from 1065 (the healthy average) to 1075 or 1080, and that of the serum to about 1040, ten or twelve degrees above the normal average: hence its tar-like consistence. This state was exhibited in a patient's blood that he had very recently had an opportunity of examining, taken just as the stage of collapse was coming on, and he thought it would be a very interesting point to determine whether the collapse in all cases was accompanied by this change, or whether it might arise simply from a poisoned state of blood. Without such an altered physical condition, even in some cases where the evacuations had not been copious—that is, in cases somewhat similar to those named cholera sicca, he had found such an alteration; whereas it had been ascertained, that in ordinary diarrhœa, even when accompanied with profuse evacuations from the stomach and bowels, the serum had been found of a specific gravity not at all exceeding the healthy standard. With regard to the alterations in the fibrine, he thought that it was more one of quality than of amount; for he had found that until it ceased to coagulate, it maintained about the normal average, although when compared with fibrine from healthy blood, its elasticity and strength was much weakened, and, as the disease progressed, it soon lost altogether its power of coagulation. The total amount of solids in the blood was always much increased, especially the organic portion, which arose from the watery part passing off by the intestines, and taking with it some of the salts of the serum, which last, compared with the organic portion, were consequently diminished in amount, but not so much as stated by Dr. O'Shaughnessy. On this point, however, Dr. Garrod would not give a positive opinion, as his analyses were not as yet complete. Dr. Garrod had also examined the blood in several cases of cholera, for the purpose of determining the amount of urea and uric acid, and the results of his experiments might be summed up in a few words—viz. that during the stage of collapse, the urea was usually found in the blood in quantities greater than in health, but its amount was not large; that when partial reaction ensued, the urea was still further increased, but that in the consecutive fever which sometimes succeeds the collapse, its quantity became excessive, and that probably some of the symptoms then exhibited were due to this accumulation. Dr. Garrod considered that in the collapse there was an almost total arrest of formation of urea, as well as of the excreting power of the kidneys, but that in the stage of reaction, the formation of the principle ensued, frequently without the restoration of the excreting function, and hence its accumulation in the blood. The uric acid appeared to follow the same laws as the urea. In one case Dr. Garrod found the serum slightly alkaline in the collapsed stage, but after partial reaction it exhibited an acid state, which was not altered by the application of heat. The rice-water evacuations were always alkaline in reaction, and contained a large amount of saline matters—viz. phosphate of soda and chloride of sodium, in proportions not unlike those found in the blood, the albumen in small quantities only. The vomited matters exhibited an acid reaction. The bile in one case had a specific gravity, 1044. The late hour of the evening prevented Dr. Garrod from entering further into detail.

SOUTH LONDON MEDICAL SOCIETY.

March 6, 1849.

John Hilton, Esq., F.R.C.S. President, in the Chair.

Dr. Barlow read the following case of

Rheumatic Pericarditis, complicated with Diaphragmatitis.

Thos. Taylor was admitted into Guy's Hospital January 24th, 1847, rather delicate looking, but whose former health appeared to have been good on the whole. Five days before admission he was attacked in the morning (having washed his feet on the previous night) with pain, swelling, and tenderness of the right foot and ankle: the left foot next became affected, and after that his upper extremities. In two or three days, according to his own account, which was not very accurate, palpitation came on, with severe pain at the apex of the heart, and a distressing sense of constriction across the chest, with aggravation of these symptoms towards night. There was an expression of extreme anxiety in his countenance: he reclined in a semi-erect posture, with his shoulders thrown forward: there was a little duskiness of the countenance, and some livor of the lips; his hands and feet were also cold and livid; his joints, especially the ankles and wrists, were swollen and painful, but no joint could be moved without extreme pain; there was also great pain at the back of the neck, aggravated by motion: respiration hurried, and carried on by the upper ribs, the lower ribs and abdominal muscles being nearly quiescent. He complained much of pain about the apex of the heart, and the margin of the ribs on the left side anteriorly: the respiratory sounds, so far as could be ascertained, were natural; there was a soft murmur accompanying the systole of the heart; appetite indifferent; tongue slightly coated with a white fur; bowels regular; urine high coloured, and loaded with lithates; pulse remarkably feeble, scarcely perceptible, and irregular.

He was ordered to be cupped to ℥viij. over the region of the heart, and to take Pil. Cal. c. Opio 4tis horis, with Sp. Æth. Nit. ʒss.; Tinct. Hyoscy. ♏xx.; Aq. Camph. ℥x. ter die.

25th. — Respiration less embarrassed; pulse less feeble and irregular, but still a pulse of depression; pains of the joints unchanged. The patient being so very ill, it was some days before he, the author, could raise him to examine the posterior part of the chest, but when he did so, he found dulness on percussion at the base of the left lung, with tubular breathing, and tremulous bronchophony.

℞ Potass. Nitrat. gr. x.; Potass. Acet. 3ss.; Vin. Opii, ♏vj.; Julep. Menthæ, 3x. 4tis horis.

29th.—Going on well; able to move the upper and lower extremities.

To continue the same mixture, apply a blister to the left side, and to take Pil. Cal. Ant Opio 6tis horis.

31st.—Very much improved in aspect, and in rheumatic pains. Pain at the apex of the heart much abated; the systolic murmur before noticed is more distinct; gums tender.

Rep. Pilul. o. noct. sumend.

Feb. 3rd.—Is very much improved; countenance not so anxious; pulse 98, soft and regular; respiration less hurried; bowels rather relaxed; urine clearer, and not so dark; appetite good, but thirsty.—Pergat.

7th.—Pain much better, and sleeps tolerably well. On percussion there is dulness at the base of each lung posteriorly, more especially on the right side, where tremulous bronchophony may be heard: there was also pain, on inspiration, at the margin of the ribs on that side. Emp. Canth. lateri dextro.

10th.—Going on favourably, but has an occasional twitching pain at the præcordial region, while on percussion there is still dulness posteriorly, and distant œgophony to be heard just below the right scapula; sleeps well.

Pil. Sapon. c. Opio o. n.

12th.—Much the same; slight catching at the base of the chest on attempting a deep inspiration; sleeps well; pulse 96.

16th. — Decidedly better; œgophonic bronchophony still to be heard at the right base posteriorly; dulness on percussion less intense: appetite good, and the bowels regular.—P.

19th.—The dulness has diminished, and the bronchophony disappeared; but there is a soft moist crepitation to be heard on inspiration and expiration in the previous situation.

21st.—The sound noticed above, with the pectoral pain, disappearing, and the systolic murmur to be heard but faintly.

The author then made a few remarks with reference to the diagnosis, and inquired of the members if they considered the case to be simply pericarditis, or complicated with diaphragmatitis, although, from the extreme difficulty of breathing, and anxiety of countenance, he was inclined to believe the latter was the true condition. He then made a few observations as to the treatment, and more particularly with respect to depletion where the circulation is so depressed as in the present case; and, in answer to a question from the President respecting the *modus operandi* of the salts of potash, observed he could not explain the exact action, but probably a powerful diuretic effect was produced, and that some change took place between them and the blood tissues in the capillary circulation. When the pure alkalies, such as the liq. potass., were given, the urine might be long unaffected, but that a much speedier effect was produced when combined with an organic acid.

Mr. Evans referred to the peculiar character of the perspiration in rheumatic cases, and inquired of Dr. Barlow if he had observed any change in its character as the case proceeded towards recovery.

Dr. **Barlow** could not exactly give an answer, but thought it a point worthy of future observation; and, in answer to the President, observed that in the depressed state of the patient he had used cupping with great hesitation and caution; but yet, where inflammatory action existed, there was often much tolerance of loss of blood: considering, also, that the oppressed state of the circulation was the consequence of the inaction of the diaphragm interfering with the respiratory movements, he considered a cautious abstraction of blood might be useful.

Mr. **Waterworth** fully agreed with the author in viewing the case as one of rheumatic pericarditis, with affection of the diaphragm; he had lately seen a similar case, but where the symptoms were of a less formidable character, in which he purged freely, but refrained from bleeding, feeling sure it was a rheumatic attack, and would do well without: he then alluded to the extensive deposits of lithates in the last-named disease, which was not common in simple inflammations.

Dr. **Barlow**, in answer to a question from the President as to what peculiar symptoms he would refer particularly in proof of the diaphragm being implicated, stated the character of breathing was of a fixed diaphragm, the respiration being easy while thus confined; the extreme anxiety of countenance, and he thought also that the tendency to collapse, was a most important indication.

Mr. **Evans** mentioned a case of extensive inflammation of the diaphragm of the left side, accompanied with intense suffering and pain, with a peculiar terrific countenance, the patient being apprehensive of the least pressure on the chest. The leading symptoms of the case were excessive dyspnœa, difficulty of movement, and a full and bounding pulse: the treatment was bleeding, warm baths, with Cal. c. Opio; but the means failed, and the man died. In this case the exciting cause seemed to be drinking excessively of brandy and water.

Dr. **Barlow** agreed that the extent of inflammation would modify the pulse, that double inflammation of the pleura was a disease of great danger, and did not in general bear the loss of blood well.

Some observations were then made as to the external use of belladonna in these cases; and although its too free use seemed to have been injurious in one instance, Mr. Evans stated that he had found it extremely useful in pertussis, when used as in the following liniment:—℞ Ext. Bellad. ℈ij.; Liq. Ammoniæ, ʒij.; Lin. Sapon. ʒxiv. bis die utend. supra spinal.

Mr. **Waterworth** had also found it extremely useful, but in larger proportions, in rheumatic pains, particularly in the neck.

Thursday, March 16th.

Anæmia—Disease of the Supra-renal Capsules.

Dr. **Addison**, at the request of the President, proceeded to describe a remarkable form of anæmia, which, although incidentally noticed by various writers, had not attracted, as he thought, by any means the attention it really deserved. It was a state of general anæmia incident to adult males, and had for several years past been with him a subject of earnest inquiry and of deep interest. It usually occurs between the ages of twenty and sixty; sometimes proceeding to an extreme degree in a few weeks, but more frequently commencing insidiously, and proceeding very slowly, so as to occupy a period of several weeks, or even months, before any very serious alarm is taken either by the patient or by the patient's friends. Its approach is first indicated by a certain amount of languor and restlessness, to which presently succeed a manifest paleness of the countenance, loss of muscular strength, general relaxation or feebleness of the whole frame, and indisposition to, or incapacity for, bodily or mental exertion. These symptoms go on increasing with greater or less rapidity: the face, lips, conjunctivæ, and external surface of the body, become more and more bloodless; the tongue appears pale and flabby; the heart's action gets exceedingly enfeebled, with a weak, soft, unusually large, but always strikingly compressible pulse; the appetite may or may not be lost; the patient experiences a distressing and increasing sense of helplessness and faintness; the heart is excited, or rendered tumultuous in its action, the breathing painfully hurried by the slightest exertion, whilst the whole surface bears some resemblance to a bad wax figure: the patient is no longer able to rise from his bed; slight œdema perhaps shows itself about the ankles; the feeling of faintness and weakness becomes extreme, and he dies either from sheer exhaustion, or death is preceded by signs of passive effusion or cerebral oppression. With all this, the emaciation or wasting of the body, though sometimes considerable, is not unfrequently quite disproportionate to the failure of the powers of the circulation—relaxation and flabbiness, rather than wasting of the flesh, being one of the most remarkable features of the disorder.

Dr. Addison next proceeded to give the details of several cases which had fallen under his own immediate observation. In only two of these did the patients recover: the one, a man below the middle period of life, who was looked upon as past all hope, and suspected to be suffering from some latent malignant disease, slowly but steadily recovered under the free use of brandy, but with the singular result of the hair of one side of his head turning permanently grey, whilst the other retained its original brown colour. The second case of recovery occurred in a gentleman above middle age: it was by no means far advanced, but was sufficiently well marked to excite alarm. He left his business, quitted London, and sought recreation in the country. After a time he returned, and appeared to have shaken off the disorder almost entirely. In three cases only was there an inspection of the body after death, and *in all of them was found a diseased condition of the supra-renal capsules.* In two of the cases no disease whatever could be detected in any other part of the body. Dr. Addison inquired if it were possible for all this to be merely coincidental? It might be so, but he thought not, and making every allowance for the bias and prejudice inseparable from the hope or vanity of an original discovery, he confessed that he felt it very difficult to be persuaded that it was so. On the contrary, he could not help entertaining a very strong impression that these hitherto mysterious bodies—the supra-renal capsules—may be either directly or indirectly concerned in sanguification; and that a diseased condition of them, functional or structural, may interfere with the proper elaboration of the body generally, or of the red particles more especially. At all events, he considered that the time had arrived when he felt himself warranted in directing the attention of the profession to these curious facts. In thanking the Society for the patient hearing with which they had favoured him, he ventured to bespeak their interest not only in regard to the anæmia he had described, but also in cases of purpura, and some of the more anæmiated forms of chlorosis in the female, which he could not but regard as being more or less allied to the morbid state to which he had directed their attention. Indeed, not only had he found the anæmia in question occasionally occurring in connection with purpura, but had observed in cases of the latter disorder certain local symptoms which pointed somewhat significantly to the seat of the supra-renal capsules; whilst the bloodless and waxy appearance of certain chlorotic females bore so close a resemblance to the anæmia described, that it was difficult not to suspect the existence of something common to both.

ROYAL INSTITUTION.

March 16, 1849.

PROFESSOR COWPER *on the Mechanism of Telescopes.*

This lecture did not touch on the philosophical or optical construction of telescopes, but was devoted to their mechanical and engineering contrivances. It was full of lively interest, from the number of models and illustrations exhibited, and from the happy and clear manner in which the explanations were given.

The lecturer exhibited the various movements of different telescopes; explained the use of the theodolite; showed that the mechanic must be assisted by the engineer in the construction of large telescopes, owing to the different rate of cooling of the various parts of large metal castings, and owing, also, to the immense weights which have to be moved and adjusted with ease, accuracy, and steadiness; and he explained the construction of Whitworth's micrometer, by the aid of which it is possible to measure the 50,000th part of an inch.

After explaining and illustrating the vernier and the cross wires of platina in telescopes, Professor Cowper showed the transit instrument; the altitude and azymuth instruments; and various equatorial telescopes: among others, the Northumberland equatorial, Herschel's, Ross's, Cary's, and Lassellis's telescopes, also Nasmyth's equatorial, and one of very simple construction, contrived by himself.

Professor Cowper concluded his very interesting and practical lecture by exhibiting and explaining a cheap apparatus, devised by himself, for illustrating the motion of the earth round the sun, and of the sun round the earth, with other astronomical phenomena.

A large model of Lord Ross's telescope was exhibited in the Library.

PARIS ACADEMY OF SCIENCES.

On the Use of Chloride of Zinc in taking Anatomical Casts.

M. GOURLIER has recently communicated to the Academy of Sciences of Paris, a discovery made by M. Stahl, which bids fair to be of much service to those employed in taking casts of objects, in which process it not unfrequently happens that much difficulty arises from the adhesion of the plaster of Paris to the surface of the objects to be copied or to the moulds of deep intaglio; thus interfering with the correctness and fineness of the impressions. These inconveniences are most frequently met with in obtaining casts in the following cases:—1. of soft fresh anatomical preparations, in which case they are covered with a layer of oil; 2. of specimens which have been preserved in spirits of wine; 3. of wax objects; and 4. of deep intaglios, especially when somewhat old or not recently used.

Having the charge of the castings for the Museum of Natural History, at Paris, M. Stahl has paid considerable attention to this subject, and has long sought the cause of this adhesion and the means of preventing it.

In the course of his researches, he was led to remark that this inconvenience never arose in taking casts of those objects which had been preserved in chloride of zinc instead of spirits of wine; and on applying that solution to those cases in which the inconvenience above mentioned was met with, the most complete success attended the application. Having next made several experiments with a view to ascertain the strength of the solution best adapted for the purpose, he gives the following directions for the guidance of those who make use of the process:—

If casts be required of soft or small anatomical specimens, whether fresh or previously kept in spirits of wine, these should be immersed for a few hours in a solution of chloride of zinc, of the density 20° to 25° Beaumé (equal to specific gravity 1·161 to 1·210), after which the casts may be taken without any other preparation being required.

If, on the contrary, the specimens are too large to be conveniently immersed, it will be found sufficient to apply the solution to the specimen, either to the whole at once, or to each portion of it in succession, in such a manner that the solution may be thoroughly imbibed. This last process is equally applicable to wax figures, whatever their dimensions. If moulds of deep intaglio be employed, these having been previously soaped, should be moistened with the chloride of zinc, of the density of 50° *Beaumé* (equal to specific gravity of 1·530), after which a coating of oil may be applied as usual.

M. Stahl has succeeded, by the use of the chloride of zinc, in taking a cast of a beautiful model figure, the work of the late M. Giraud, a distinguished sculptor, and now in the possession of M. Vatinelle, who, after the refusal of several casters, had despaired of ever obtaining a cast, either in plaster or bronze, of this most esteemed production.

M. Stahl has taken casts of most delicate specimens of natural history, as well as of intaglios of various kinds, obtaining the most complete and faithful reproduction of the minute details, such as the scales of fishes, &c.

Correspondence.

WHO INVENTED THE AIR-TRACTOR? CORRESPONDENCE BETWEEN DR. SIMPSON AND DR. MITCHELL.

From James Mitchell, M.D., Edin., to Prof. J. Y. Simpson, M.D., Edin. &c.

14, High Pavement, Nottingham,
March 3, 1849.

DEAR SIR,—I was rather surprised this afternoon, on seeing an account of an air-tractor, said to be invented by you, and which Mr. Higginbottom pointed out to me in "The Lancet" of to-day, to find that you had not acknowledged me as the discoverer of the application of the principle in such instrument. In your lectures of session 1847-8, you stated to your class, which I then attended, that Doctor Neil Arnott had, some years ago, attempted to apply traction to the fœtal head, when low down in the pelvis, by means of a leather sucker, similar to that used by boys as a plaything for lifting stones,—that you had yourself attempted in vain, at the Edinburgh Maternity Hospital, to apply such a leather sucker to a child's head,—that you could never get it to adhere,—and that if any gentleman in the class had mechanical genius enough to contrive a mode of applying the principle. you should be very glad to hear of it. I accordingly applied the principle, and showed drawings of its applications to several students now at the University. I took advantage of your examination towards the close of the session, to make my discovery known to you, which I did in answer to question No. 3, respecting the second position, where, in speaking of the rotation of the head from the third into the second position, or from an occipito-posterior to an occipito-anterior position, I mentioned my discovery in parenthesis. As I got my answers back again at the close of the session, and since I have them now before me, I may as well extract from them the part that I refer to. After speaking of the caput succedaneum, formed when the head is delayed after its rotation into the second position, I said, ("It is when there is difficulty at this part of the labour that Dr. Neil Arnott has suggested the possibility of a slight degree of traction being obtained from a leather sucker; such an apparatus seems to be inapplicable, but, acting on the suggestion, I would propose an instrument not more bulky than Dr. Lowder's vectis, and of which, on another sheet, I will make a rough sketch. It is on the principle of the air-pump, and consists of a tube and cup, by applying which to the child's head, a more or less partial vacuum can be obtained, quite sufficient to afford considerable extractive power without injury to the child, and the instrument might be modified in a thousand ways.")

On another sheet I did accordingly make a rough sketch of the instrument, with an explanation of its action. In the explanation attached to the sketch, I stated that the rim of the flattened cup might be made of "india-rubber, or leather and greased:" (if the latter substance) "with lard, previously to its adaptation to the fœtal head." I have now before me the very drawings I sent in to you, and which you saw along with my written answers to the questions. I must confess that I felt considerably chagrined on finding that you never once mentioned the subject again, either to the class or to myself; and that, although before the whole class you said you should be most happy to hear of the application of the principle in question, when I shewed you the application of it, I was treated with silent contempt. Still more chagrined was I to find to-day, that after I had been discouraged from bringing the instrument before the public, by the apparent contempt with which you treated my invention, you yourself should be the first to bring it into notice, without giving the remotest hint (at least as far as the report in the "Lancet" gives), that its real discoverer was one of your own pupils. Trusting that you will do me the justice to mention my name in connexion with the instrument, and that you will inform me of your intention on this subject by an early post,

I remain, sir,
Your obedient servant,
JAMES MITCHELL.

To Professor J. Y. Simpson, M.D., Ed., &c.

From Professor J. Y. Simpson, M.D., Edinburgh, to James Mitchell, M.D., Ed., &c.

Queen Street, Edinburgh,
March 6, 1849.

DEAR SIR,—I have received your letter of the 3rd of March, and I can assure you that in the construction of the air-tractor I received no hint or suggestion from the competition class exercises which you wrote at the end of the session 1847-8. I had thought and talked often of making an air-tractor, such as I have latterly constructed, long before you were my pupil. And I never, as far as I know, looked at the prize exercises which you wrote, because, as I have more than once publicly stated on this point, I do not profess to have time at my disposal to take all the necessary great care and trouble which is (are) requisite to decide among a number of different competitors for class honours; and besides, I have always confided the reading and determination of the prizes and exercises to others upon whose judgment I could implicitly rely; believing I thus best avoided all chances and possibility of bias and pre-judgment.

I have the honour to be,
Very faithfully yours,
J. Y. SIMPSON.

Edinburgh, 5th March, 1849.

To Dr. Mitchell.

P.S. If you send your letter for publication (to which, of course, I can have no possible objection), I hope you will do me the favour of adding this note to it. And I am sure your own feelings of candour will lead you to do me this justice.

From James Mitchell, M.D., Ed., to Professor J. Y. Simpson, M.D., Ed.

14, High Pavement, Nottingham,
March 8th, 1849.

DEAR SIR,—I this morning received your letter of the 6th inst., in answer to which I have only to state, that the remarks you made on the last day of the session, led me to suppose that you had read the answers to the questions, or, at any rate, had had them read to you. I was still further confirmed in this opinion by the statement of Mr. Ziegler, Jun., who told me, casually, one day, in the dissecting room, that you read some of the questions yourself, had others read to you, and afterwards submitted the whole of them to the inspection either of Dr. Ziegler or Dr. Keith, your friends. This was, of course, a mistake on the part of Mr. Z., or must have had reference to some previous year; since I have your word for the fact of your never having, "as far as you know," *looked* at the exercises which I wrote, because, as you have more than once publicly stated, you "do not profess to have the time necessary for deciding amongst a number of different competitors." I may here observe, that although I attended your lectures very regularly during two six-month sessions, I never heard you make such a statement: I do not, however, for a moment doubt the fact of your having said so in my absence. I may also observe, that there is a great difference between the amount of "great care and trouble" requisite for decision upon, and that required for the simple perusal of, exercises,—or, perhaps, having them read to one whilst sitting at breakfast. Bias and pre-judgment there could be none, unless you made yourself acquainted with the names belonging to the several mottoes of the competitors.

If you had "often thought and talked of making an air-tractor, such as you have latterly constructed, long before I was your pupil," I am willing to conclude, in justice to you, that you had quite forgotten all about it, when, in your lectures of last session, after mentioning Dr. Neil Arnott's leather sucker, you confessed that you did not know how the principle could be applied.

Since you will, doubtless, mention the air-tractor in your class-room, when you arrive at that part of your course in which Dr. Neil Arnott's leather sucker was last session mentioned, and in which the air-tractor you invented and talked about so long ago was not even hinted at, I feel myself called upon, in self-justification to those members of your present class who may have known me when in Edinburgh, to publish the whole of this correspondence.

I have the pleasure to subscribe myself,
Yours very faithfully,
JAMES MITCHELL.

To Prof. J. Y. Simpson, M.D., Ed., &c.

No. 14, High Pavement, Nottingham,
March 18, 1849.

SIR,—The accompanying correspondence, to which I shall feel greatly obliged by your giving insertion in your valuable Gazette, took place within the last few days, between Dr. Simpson and myself, on the subject of an air-tractor invented by me,—brought before his notice, and afterwards by him displayed before the Obstetric and Medico-Chirurgical Societies of Edinburgh as his own. I have, since the correspondence took place, seen a report of the Obstetric Society's first meeting, at which Professor Simpson's paper on the air-tractor was read. In this production he states that no one, before himself, as far as he was aware, had made a practical application of Dr. Arnott's suggestion. The medical public will now see that he must have been perfectly well aware of its previous application by me. I received, yesterday morning, a note from Dr. Simpson's assistant, Dr. J. M. Duncan. He says that neither Dr. Keith nor Dr. Ziegler saw the exercises, but that he himself read and decided upon them. It can scarcely be credited, that one who had the means of knowing to whom the papers belonged, should have been allowed to indulge his likes and dislikes towards certain of the competitors by his decision upon their papers: supposing, however, such to have been the case, it is a violent improbability to suppose that Dr. Duncan, who assists Dr. Simpson in everything, and is constantly with him, should have kept the article on the *air-tractor* from his knowledge, especially when he knew that the Professor had "thought and talked of it" so long ago!*

I have the honour to be, dear sir,
Yours very truly,
JAMES MITCHELL.

To the Editor of the Medical Gazette.

DR. N. ARNOTT THE INVENTOR OF THE AIR-TRACTOR.

SIR,—Dr. Simpson, of Edinburgh, lays claim to the merit of discovering the applicability of atmospheric pressure in aid of delivery. I am not an accoucheur, and am therefore unable to give any opinion as to the advantages which may be derived from this agent; but if it should prove to be of any real benefit, then—"palmum, qui meruit, ferat." The feasibility of such a scheme was published by Dr. Arnott *at least* twenty years ago, in his "Elements of Physics."

I am, sir,
Your obedient servant,
M. D.

Leamington, March 19th, 1849.

ADVERTISING CIRCULARS.

SIR,—In your remarks on Mr. Dawson's pamphlet in last week's GAZETTE, you have referred to a certain "pilot-pamphlet," signed "J. Teevan, B.A.," which some time ago winged its way through the post in every direction. This pamphlet you appear to consider as a genuine production. Perhaps you will have the goodness to inser the following disclaimer from myself and brothers, who are the only persons, as we believe, of the name of "Teevan" in England. This, we have no doubt, you will do, as an act of justice to us, and to the profession to which we have the honour to belong.—I have the honour to be, sir,

Your obedient servant,
WILLIAM TEEVAN.

23, Bryanston Square,
21st March, 1849.

We hereby jointly and individually disclaim in the strongest manner all knowledge of, or connection with, Mr. Dawson, of Finsbury Circus, or the authorship of a pamphlet signed "J. Teevan, B A;" and we declare that to the best of our belief there is no such person as J. Teevan, B.A in existence. (Signed)

WILLIAM TEEVAN, M.R.C.S. Eng.
23, Bryanston Square.
JOHN TEEVAN, M.R.C.S.
36, Harleyford Place, Kennington.
JAMES TEEVAN, M R.C.S.
30, Chesham Street.
MICHAEL TEEVAN, M.R.C.S.
44, Gloucester Road, Hyde Park.

21st March, 1849.

THE MIDLAND RAILWAY COMPANY. ACCIDENTS ON RAILWAYS, AND REFUSAL OF COMPENSATION TO MEDICAL MEN.

[DR. DAVIES has written us a long letter on this subject. Want of space prevents us from recapitulating the facts connected with the conduct of the Midland Railway Company: these, however, must be very well known to our readers. There can be only one opinion in the profession respecting the unjust treatment which Dr. Davies and Mr. Sands Cox have sustained at the hands of the Railway Company. In reference to the recent adverse judgment in the Exchequer, Dr. Davies makes the following observations, which we hope may meet with attention in the proper quarter:—]

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* We have omitted some paragraphs of this letter which were not necessary to the vindication of Dr. Mitchell's claim.

I do not attempt to deny the justness of Mr. Baron Parke's decision when the case was tried before him in the Court of Exchequer: I am willing to admit that his decision was correct according to the law as it now stands. Although the rule of law referred to by Mr. Baron Parke had been in operation long before railways came into use, it appears to me that some special rule of law is necessary with regard to railway companies, so as to render them responsible not only for the safe conveyance of passengers entrusted to their care, but that they should likewise be compelled, in case of accident occurring upon the line of railway, to see that every reasonable care be taken, and medical assistance rendered as promptly as possible. Generally speaking, the accidents upon railways are of a most serious and dangerous description, requiring not only the best but the speediest medical assistance that can be obtained. It appears to me that the life of a fellow-creature is of less importance than the loss or injury of a bale of goods. If a bale of goods be spoiled or damaged, the company is held responsible; but it appears such is not the case with a human being. As to comparing the mode of travelling per rail with the old mode of travelling per coach, I maintain that the cases are widely different. In the first place, with very few exceptions, there were several coaches upon the same road, worked by different proprietors, and the person travelling had the privilege of making his own selection which he would go by. Such being the case, there was a competition amongst the proprietors, and persons had the privilege of selecting that mode of conveyance which they considered to be best conducted. But such is not the case with the lines of railway, which are private property, and conducted by a great and powerful company, which have driven all other modes of conveyance from off the roads, so that a person wishing to travel any distance, is compelled either to travel per rail or stay at home. And again, any person going upon the line of railway is liable to be prosecuted for trespass. If an accident happened by the old mode of travelling per coach,—such as a person falling off the roof, &c., so ably described by Mr. Baron Parke,—if the coachman was so brutish as to drive on and take no notice of the accident, there was even then a chance, as the road was a public thoroughfare, of the former being discovered by some good Samaritan travelling that way, finding and taking care of him; but such is not, and cannot be, the case by railway. I should like to ask, in case of a severe accident occurring to a passenger per rail, what is to be done,—what is the course to be pursued? As the servants of the company are not empowered to call in medical assistance, or at least that the company do not hold themselves responsible for medical assistance, I suppose all the power which is invested in the servant of the company, is merely to drag the passenger injured from off the line of rails, and there leave him to his fate. The very idea is too horrible to contemplate. As the preceding case clearly establishes the non-responsibility of railway companies, I should like to know what a medical man, being sent for by the servants of the company to attend an accident, would volunteer his services without knowing to whom he was to look for payment. A man being injured by travelling per rail would stand a much worse chance than a man upon the field of battle, as the wounded in the latter are always looked after and provided for after the best manner the case affords. If such is to be the law of the land, it will become absolutely necessary that a medical staff should be added to every railway company, and that they should be compelled to send out a medical officer with every train, to take care of the passengers in case of accidents.

T. Davies, M.D.

Blythe Cottage,
Coleshill, March 6, 1849.

ON CHOLERA IN ENGLAND AND THE WEST INDIES. FACTS ADVERSE TO ITS RECENT IMPORTATION INTO THIS COUNTRY.

Sir,—If you think the following would in any way tend to the solution of the contagion puzzle, or to reconcile some of the apparent discrepancies, might I ask you to spare it a corner? It appears to possess the advantage at least of pointing out all useful indications. By contagion here is meant a morbid animal aura or halitus, constituting a specific leaven, and in contradistinction to infection, something visible and tangible, as pus, lymph, &c. Liebig compares its action to that of yeast in an infusion of malt; but going a step farther, might we not say the same action set up by the contagion among the effete and less vitalised particles within the body, may also be set up in the vicinity of sewers or other receptacles of decomposing animal matters, resolving a certain portion into their constituent elements or new compounds, and another, like the gluten in the malt, into contagion, the new semina or leaven. According to this view, contagion might act either mediately or immediately, from person to person, as when a disease prevails sporadically or under favourable circumstances by contaminating the whole atmosphere, as when it prevails epidemically. The last would also show how an epidemic, contagious disease may cease in one place or district to break out in another, and for the occurrence of sporadic cases long after the epidemic has ceased. The cholera (Asiatica, as it has been termed), I am persuaded, has never been out of England since 1832. At all events, No. 1 of the following cases would pass for the pestilential disease on the banks of the Ganges or Indus, whilst No. 2 is the very image of the cholera of Celsus. The true English cholera, as far as I remember to have seen of it, is a more acute disease. The agony, the thirst, and the restlessness, throwing the clothes off the stomach, may be extreme; but the sunk livid orbit, the shrivelled, wet, and livid appearance of the fingers and nails, I have no remembrance of. It is true, however, No. 1, as well as a similar case in 1847, came nearly within Sydenham's time—August, that is—and not beyond the first week in September. We speak from memory, not having read Sydenham's work these 20 years.—Your obedient servant,

R. H. A. Hunter,
Staff Surgeon, 1st Class.

Saint Vincent, West Indies,
22nd January, 1849.

No. 1.—"*Provisional Bat. Hospital, Chatham, July*, 1846.

"29th, 10 A.M.—Private T. Sutton, 8th Foot, æt. 39, twenty years' service, 11 in the West Indies, nervo-choleric temperament. Admitted at 7 A.M. from lodgings in Brompton, with vomiting, purging, and cramps, the last chiefly confined to his legs and great toes, which he reports to have commenced at 1 A.M. (His wife says he has been suffering from bowel complaint for some days, and last night drank three pints of porter.) Surface cold and damp; face covered with cold perspiration; eyes deeply sunk and livid; fingers shrivelled, and with the nails blue; pulse barely perceptible.

Noon.—" Has just vomited, with an immense gush, a large quantity of cunjee-like fluid; cramps less frequent, and nearly confined to the great toes; pulse is a little more distinct; coldness and lividity, &c. continue.

3 P.M.—" (Visited in company with Deputy Inspector General B. Nicholson, who accidentally called that day.) Decubitus on right side a little bent; skin deadly cold, and pulse scarcely perceptible; heart's sounds with stethoscope quite distinct; respiration prone (?) but non-expansive.

6 P.M.—" One white watery motion a few minutes ago; slight cramps occasionally; thighs tolerably warm; legs and arms cold; pulse 130 to 140, extremely feeble; expired at midnight.

Autopsy, 30th, noon. — " Head not examined; lungs collapsed; heart and large vessels distended with dark blood; pink suffusion of peritoneal surface of intestines; vessels very distinct; stomach contained about a pint of fluid, resembling thin sago; liver of moderate size, but exuded freely dark blood when cut; bladder contracted and empty."

No. 2. — " *Saint Vincent, West Indies, January*, 1849.

" 12th, 10 A.M.—Private M. Hopkins, 88th Regiment, æt. 22, three years' service, 1 in the West Indies, choleric temperament. Complains of cramps in his belly and thighs, the first so acute, he is afraid to lie down; fingers and toes cold; surface generally, warm, exposed parts excepted; pulse of tolerable volume and force; states that he was seized at 5 A.M. with watery purging, and has since been vomiting every thing; knows no cause, and has not been out of barracks for some days; voice good; no collapse. (The rations yesterday were peas and pork.) V. S. ad ℥xij.; Calomel, gr. x., c. Opii, gr. j. Haustus Ammoniæ.

11 A.M.—" Blood very black—remarked by the bystanders,—flowed very languidly, and occasionally stopped; faint afterwards, but soon had to go to stool, and again vomited copiously a watery fluid. (The others evidently thought it was 'the black vomit.') Fingers and toes still cold. Admoveantur ampullæ calidæ pedes: Emplastrum Lyttæ epigastrium. Iterum Calomel, gr. x., c. Opii, gr. j.

1 P.M.—" Blood drawn black, and without the least separation of serum; now warm, and beginning to perspire; pulse 104.

6 P.M.—" Vomited a large quantity of 'watery stuff' about an hour ago; complains much of the blister; still thirsty; and faint choleric odour perceptible; skin warm and moist; pulse 108.

Compare Celsus, who practised in a climate intermediate between this and England. (The pestilential cholera has not yet been in the West Indies, so the above may be considered as the old or original disease.) " Nam simul et dejectio et vomitus est; præterque hæc inflatio est, intestina torquentur, bilis supra infraque erumpit, primum aquæ similis, deinde ut in ea recens caro tota esse videatur, interdum alba, nonnunquam nigra vel varia. * * * Sæpe etiam crura manusque contrahuntur, urget sitis, anima deficit." And again—" *Si* (not a common symptom) extremæ partes corporis frigent, unguendæ sunt calido oleo," &c. Compare, again, that described by Sydenham, and its prototype of 1823 and 1826, a few of which cases I saw in the last of these years.

Medical Intelligence.

PROGRESS OF THE ASIATIC CHOLERA.

The cases and deaths up to the 21st inst. are as follows:—

	Cases.	Deaths.
London . . .	1205	617
Provinces . .	1077	476
Scotland .	12,040	5219
	14,322	6312

MEDICAL SOCIETY OF LONDON.—ELECTION OF OFFICERS.

The seventy-sixth anniversary meeting of the Society was held on the 8th inst., at the Albion Tavern,—the President, Mr. Hancock, in the chair. The Oration was given by Dr. Hughes Willshire, and was entitled the "Moral Aspects of Medical Life." The Fothergillian gold medal was given to John Milligan, Esq., of Keighley, Yorkshire, and the silver medal to Dr. Willshire. The following gentlemen were elected office-bearers for the ensuing session:—*President:* H. Hancock, Esq., — *Vice Presidents:* Dr. Chowne, Mr. Dendy, Dr. Waller, and Mr. Hird,—*Treasurer:* Mr. Clifton,—*Librarian:* Mr. Harrison,—*Secretaries in Ordinary:* Dr. Smiles and Dr. Bowrie,—*Secretary for Foreign Correspondence:* Dr. Davidson, — *Councillors:* Messrs. Eales, Headland, Hutchinson, Linnecar, Middleton, Pilcher, Holding, Robarts, Stedman, Drs. Clutterbuck, Rowland, Lever, Crisp, Mr. Harvey, Dr. Willshire, Mr. Barlow, Mr. Todd, Mr. Lowe, Dr. G. Bird, and Dr. Cogswell,—*Fellow to deliver the Oration in* 1850: Mr. Hilton. The Fellows of the Society and their friends, to the number of nearly sixty, sat down afterwards to an excellent dinner.

APPOINTMENT OF MEDICAL OFFICER TO THE WILTS COUNTY LUNATIC ASYLUM.

The committee of visitors have, out of a list of upwards of thirty candidates, appointed Dr. Thurnam, of the Retreat, near York, to the important and responsible situation of medical superintendent of the County Asylum—an appointment which has, we understand, given the greatest satisfaction.

THE SUPPRESSION OF ILLEGAL PRACTICE.

We are glad to perceive that the Medical Protection Society is earnestly engaged in endeavouring to rid the profession of the numerous pretenders with which it is infested.

In reference to the recent decision in the case of the Apothecaries' Society *v.* Lobo, and the measures which it may be in consequence advisable to adopt, a public meeting of the Profession has been convened, to be held at the Freemasons' Tavern, on Monday next, the 26th March, at 7 o'clock. The Society will find ample work for the County Courts, and we heartily wish them success.

POOR LAW MEDICAL RELIEF.

On Tuesday last, Lord Ashley presented to the House of Commons a petition from the chairman and committee of the Medical Officers' Union in England and Wales, setting forth the grievances of which they complained, and praying the House to adopt measures, not only to amend the system of Poor Law medical relief, but to put on a more satisfactory footing the laws for the regulation of the medical profession generally in England and Wales.

THE OFFICE OF CORONER—MEDICAL AND LEGAL CANDIDATES.

To the Mayor, Aldermen, and Councillors of the City of Manchester in Common Council Assembled.

On behalf of the Manchester Medico-Ethical Association, we, the undersigned medical practitioners, burgesses of the city of Manchester, submit to you the following considerations, in reference to the advantages that may be expected from the appointment of a medical man to the office of Coroner, vacant by the resignation of Mr. Chapman.

We are aware that the practice has usually been to elect a member of the legal profession to fill this office, and were it one having relation only to technical law, a lawyer alone would be capable of holding it.

The duties of a coroner, however, are little, if at all, influenced, either by legal precedents, or by the usages of courts of law in general: they have chiefly regard to the cause of death under suspicious circumstances, and therefore commonly partake more of a medical than a legal character. We hold that for this latter reason a medical and surgical education is a most important qualification for the discharge of the first duty of a coroner—viz. that of deciding whether in any given case an inquest is required at all, and, if so, whether or not it is necessary to employ medical evidence to determine the cause of death. It is unquestionable that occasionally a medical coroner would, from his own professional experience, be enabled to remove unfounded suspicion, so as to render it unnecessary to hold a formal inquest; whilst, in other cases, really doubtful circumstances, capable of detection by a medical coroner only, would not escape observation.

An inquest being found necessary, one duty of a coroner is to view, in company with the jury, the body of the deceased, and after such united inspection, to make his remarks upon the appearances which it exhibits. None, however, but a medical coroner is competent to give an opinion on the morbid appearances, or to judge of their bearings upon the case before them.

The coroner has to direct the inquiry into the cause of death, to examine witnesses, to elicit, receive, and reject evidence, separating what is pertinent and valuable from what is irrelevant; and finally, to sum up the whole to a jury in such simple terms as shall unable them to arrive at a just verdict.

We would submit, therefore, that a knowledge of the manner in which an immense variety of causes, mechanical and chemical, produce death, is requisite for extracting from witnesses the essential circumstances of the case; and that in many instances even the evidence elicited can neither be fully appreciated by the coroner himself, without preliminary medical training, nor can its true value be rightly represented by him to the jury. It is notorious that the evidence of an incompetent medical witness, unchecked, and uncorrected by a non-medical coroner, has led to serious misdirection of the jury, and consequently to an erroneous verdict.

The office of coroner is said to be strictly judicial, and it is argued that a medical education would render him liable to exercise the functions of a witness as well as of a judge. We would reply, however, that his office is rather of an ntermediate character —viz. that of the inquisitor, the searching investigator of the truth, who must be well versed in the subject which he seeks to elucidate by the testimony of others.

It has been maintained that legal experience is necessary for securing formal precision in the depositions. If this were true, it follows that all Justices of the Peace should be of the legal profession: these functionaries having multifarious forms and technicalities to observe in the execution of their duty. We believe that in this respect all that is really needful may be readily gained by any one possessed of good common sense, and babits of business.

This remark applies even more forcibly in respect to a knowledge of the law of evidence; for it must be remembered that the object of the Coroner's Court is to examine into matters of fact, and not into matters of law. In proof of this, we would observe that the office of Coroner has been often held by persons who have received neither a legal nor a medical education, yet whose technical duties have been ably executed in a legal point of view, whilst serious errors have resulted from their medical incapacity.

In soliciting your attention to the foregoing suggestion, We have the honour to be,

Your obedient servants,
J. L. Bardsley, M.D., President,
R. Allen, } Honorary
J. Aikenhead, } Secretaries.

THE MANCHESTER MEMORIAL ON MEDICAL REFORM ADDRESSED TO THE RIGHT HONOURABLE SIR GEORGE GREY.

The undersigned members of the medical profession, practising in Manchester and its immediate neighbourhood, beg to express the gratification which they feel at the interest you have evinced in the subject of Medical Legislation; and to offer you, at the same time, their best thanks for the efforts you are making to bring about a satisfactory settlement of the question.

They feel bound, however, to offer you the very serious objections which they entertain to a scheme proposed for the purpose, embodied in certain "Outlines of a Bill for regulating the profession of Physic and Surgery," which is contained in a "Report on the present state of the Medical Reform Question, published by the Council of the National Institute of Medicine, Surgery, and Midwifery;" which Outlines, it is stated, have been submitted to you by a conference of delegates from the principal medical corporations in London, as likely to be acceptable to the profession at large.

The undersigned memorialists would observe, in the first place, that no satisfactory reasons exist for the establishment of a College of General Practitioners in England, when no corresponding institution is proposed for Scotland and Ireland; and they see, moreover, no good reason why any such incorporation should be proposed at all. It has been urged that the Royal College of Surgeons of England, unlike that of Scotland or of Ireland, has always been an institution for the promotion of surgery merely; on which account the Council have constantly repudiated any arrangement whereby future members of the College should undergo some comprehensive examination in all the sciences, an acquaintance with which is more or less required in the several exigencies of medical and surgical practice. The undersigned, however, would submit that the voice of the great majority of the profession, and the all but unanimous disposition of members of the College, should be paramount to the antiquated conceptions of certain members of the Council; and they would urge that the English College, either by legislation or by royal charter, should be so far assimilated in its constitution to those of Scotland and Ireland, that one scheme of medical polity should uniformly apply in every part of the United Kingdom.

The undersigned would urge upon you, that any alteration in the constitution of the English College of Surgeons, at the instance of its virtually irresponsible Council, is deemed by them to be quite out of the question; and yet, without an alteration in its present constitution, harmony between the College and the great body of the profession cannot be re-established. They would recal your attention to the circumstance, that legislative enactments, some years ago, harmonised municipal institutions with the spirit of the age, irrespective of the feelings of irresponsible councils; and they would submit, that no grounds exist for the application of a different principle in the treatment of medical corporations. But even if it were conceded that the establishment of a College of General Practitioners in England were a necessary or a good thing, the undersigned maintain that the kind of institution proposed would fulfil none of the ends for which such a College has been stated by the Conference to be required; for, by the draft of the charter which is solicited, it is proposed to admit doctors and bachelors of medicine to the membership, without any further examination,—in this way leaving the public, to whom they thus become certificated as general practitioners, without any guarantee for their practical efficiency in midwifery or pharmacy; and giving them, moreover, equal advantages with those who have been examined in every department of the profession. The memorialists would observe, that attendance upon lectures, without the expectation of examination on the subject of the same, is notoriously a mere formality. A still greater anomaly exists in the proposal to enrol, in the College of General Practitioners, persons holding only the diploma of the English College of Surgeons, seeing that it is merely a testimonial of anatomical and surgical proficiency: but if this circumstance were passed over as a mere temporary evil, necessary for the adjustment of certain existing anomalies, the proposed scheme of the conference would permanently establish the practical absurdity of authorising a Fellow of the College, without any medical examination whatever, not only to practice every department, but further to do so with the prestige of superior rank. If, then, the Council of the College of Surgeons be sincere in its declarations, that its purpose is merely to educate anatomists and practitioners in what is called pure surgery, it is a flagrant injustice to the community at large that they should thus confer privileges to practice the profession generally.

The memorialists hold, that if a College of General Practitioners is to exist at all, it should be for the three kingdoms, and as a common portal to all who enter the profession with the intention of practising the same in all its departments; and they would remind you that, except in the metropolitan and some other of our leading cities, almost all members of the profession are general practitioners, whatever be their academic or collegiate distinction.

The memorialists would further observe, that no legislation can be acceptable to the great body of practitioners in England, that may in any way ratify the arrangements introduced into the College of Surgeons by the charter of 1843. In remedying the retrospective injustice perpetrated by that enactment, they would urge you (in any Bill that may be introduced) to abolish the distinction in the register to be made between Fellows and those who were members prior to the grant of the charter in question. They would more especially urge upon you, that the distinctive classification of a register should have regard not only to collegiate rank, but to the actual circumstances in practice: for example, that to be registered as physician, the doctor or bachelor of medicine should practice in that capacity,—that to be registered as surgeon, the fellow or member should at least cease to dispense his own medicines,—and that all, whether doctors of medicine, fellows or members of colleges, should be required to register as general practitioners, if such be their actual position.

The memorialists, however, would again submit, that for all purposes benefiting science or the community, there is no requirement for any additional college, and that no practical advantage can result from any such three-fold classification in the proposed register as that just referred to; because, out of London, the actual condition of the profession would be found to have no reasonable correspondence with the same.

They would, in conclusion, earnestly entreat you to decline becoming a party to any legislation in the spirit set forth in the "Outlines of a Bill" published by the Conference of Delegates. They have to state, moreover, that if, unfortunately, from the extraordinary activity and perseverance of a very small minority of the profession, any such Bill should pass into a law, members of the English College of Surgeons will, in many cases, feel bound to decline being placed on the register altogether, rather than to occupy therein an unjustly subordinate position. The memorialists sincerely hope that the members of the College will not be driven to so extreme a proceeding; but they are convinced, at the same time, that if the course of events should call upon them to take such a step, they will not hesitate to do so.

Signed by 142 of the leading members of all classes of the profession, resident in Manchester and its immediate neighbourhood, amongst whom are:—Edward Lyon, M.D.,

J. L. Bardsley, M.D., Consulting Physicians to the Royal Infirmary; W. J. Wilson, F.R.C.S. Senior Surgeon to the Infirmary; T. Radford, M.D.; J. Windsor, F.R.C.S.; John Roberton, W. W. Beever, Daniel Noble, R. H. M'Keard, George Southam, Thos. Dorrington, Isaac A. Franklin, J. Black, M.D., F. Renaud, M.D., Joseph Denham, John Rayner, F.R.C.S., Thos. Fawcett, John Yorke Wood, &c. &c.

SYMPTOMS PRODUCED BY A LARGE DOSE OF TINCTURE OF COLCHICUM. RECOVERY. EMPLOYMENT OF IODINE.

M. LEROY DES BARRES has reported to the Academy of Medicine, the following case of poisoning by colchicum.

A female, æt. 57, suffered from pain in the epigastrium. Her medical attendant prescribed for her *an ounce* (30 grammes) of tincture of colchicum, of which she was to take a tea-spoonful night and morning in a simple julep of taraxacum. Before commencing this treatment, she was directed to take a purgative draught, composed of syrup of buckthorn and sulphate of soda. By some unfortunate mistake, the whole of the tincture of colchicum was swallowed instead of this draught. In five minutes she felt severe pain in the stomach and bowels, and there was great anxiety: in this state she was seen by M. des Barres. Her face was pale, the features contracted, and the eyes sunk. The pain in the abdomen was very severe. She vomited once a glairy, mucous-like matter, and this was followed by several liquid, dark-coloured stools, accompanied by violent colic. The patient complained of a sense of suffocation and strangulation. The pulse was weak, and only fifty in the minute; the extremities were cold; vision was not affected, and the intellect was clear. There was neither head-ache, vertigo, thirst, nor dryness of the mouth or fauces. Small doses of tartar emetic were exhibited: these brought away a yellowish-coloured liquid, having a spirituous odour like that of the tincture of colchicum. Vomiting was promoted by draughts of warm water, and the patient then took the ioduretted water recommended by M. Bouchardat: this appeared to relieve the cramps in the stomach and the colicky pains. In about an hour the dose of ioduretted water was repeated. In two hours the patient was suffering from incessant vomiting, with cramps in the muscles of the legs and arms. The extremities were cold, and the hands and arms had a livid hue. Frictions were employed, stimulating poultices were applied to the abdomen, and sinapisms to the feet. The patient still continued to take occasional doses of the ioduretted water. Thirteen hours after the poison had been swallowed, the woman was suffering from great prostration of strength, vomiting, diarrhœa, cramps in the limbs, twitchings of the tendons, great agitation, and severe pain in the abdomen. The pulse was 65. Only a few drops of urine had been passed.

On the following day the symptoms continued, the pulse having risen to 90. The heat of the body was more equally distributed; the tongue was dry, thirst intense, and there was entire suppression of urine. The cramps and convulsive motions of the limbs with the feeling of strangulation, had disappeared. Leeches were applied to the abdomen, and emollient medicines prescribed.

In the afternoon the patient had considerably improved, and urine was freely secreted. On the fifth day the fever had disappeared, but there was still some diarrhœa. In the course of a week or ten days the patient had entirely recovered.—*Journ. de Med. de Bourdeaux*, 1848.

⁂ The report of this case shows that M. Bouchardat's ioduretted water had no effect whatever in allaying the symptoms, or in exerting any beneficial antidotal effects: toast-water would have been just as efficacious. As in other reported cases of poisoning by colchicum, there was no action on the brain. The symptoms were those of gastro-intestinal irritation, with a remote effect on the spinal marrow.

VACCINATION IN AFRICA.

I HAVE all along been very desirous to extend the benefit of vaccination to the tribes of the Niger, and have at most places vaccinated, and recommended it to the Mallams (*i. e.* the priests and physicians) on every occasion. I explained its use to one or two Mallams, and to Mamausa, the chief's son. Mamausa was particularly struck with what was told him, and at once begged to be shown, how to operate himself. He inserted the lymph into the arms of six boys, and really with neatness and skill, although I dare say he never saw a lancet before in his life. But the people seem to have great imitative power.

Speaking of vaccination, I would here remark that I feel confident that medicine and surgery, judiciously exercised, will form important elements in any endeavour to civilize the tribes on the banks of the Niger. The same will obtain, I believe, throughout Africa. The Africans have the most sacred confidence in the powers of medicine. Medical practitioners are nowhere more respected. When I first proposed vaccination as an effectual remedy for one of their most direful scourges in the dry season, it is true many of the mothers listened with doubt, and eventually ran away with their children; but we must not forget the bitter animosity entertained by enlightened men of our own day, in our own country, against one of the greatest medical discoveries ever promulgated to the world. I have said that many of the African mothers were doubtful of this new remedy; but great numbers stayed and submitted their children to the operation when its simplicity and after-benefits were clearly explained to them.

It is through the Mallams that I entertain strong hopes of extending vaccination throughout Africa,—at all events, along the banks of the Niger. Desirous as they are to add to their importance, they will be quite ready to have the boast of a new operation, which is in itself so simple. Self-interest, then, will prompt them to attend to vaccination; and in process of time, the people themselves will be able to appreciate in some degree the value of Jenner's immortal discovery.—*Dr. M'William's Expedition to the Niger.* X

BOOKS & PERIODICALS RECEIVED
FOR REVIEW.

Medical Reform, a Public Question; or, how to save Twenty Thousand Lives per annum, &c. By a Physician.

Healthy Skin: a Treatise on the Management of the Skin and Hair. By Erasmus Wilson, F.R.S. 3d Edition.

The British Record of Obstetric Medicine. No. 6, March 15.

Facts in Medicine and Surgery. By John Grantham, F.R.C.S. &c.

Elements of Chemistry. By Sir Robert Kane. 2d Edition, enlarged.

La Presse Médicale. No. 12. Bruxelles.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer	30·18
" " " Thermometer^a	45·9
Self-registering do.^{b} .... Max. 47·1	Min. 42·6

^{a} From 12 observations daily. ^{b} Sun.

Rain, in inches, 0·0.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 2° above the mean of the month (43·9).

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Mar. 10.

Births.	Deaths.	*Av. of 5 Wks.*
Males.... 768	Males.... 537	Males.... 592
Females.. 753	Females.. 546	Females.. 577
1521	1083	1169

Causes of Death.		*Av. of 5 Wks.*
All Causes	1083	1169
Specified Causes	1073	1164
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*..	283	221
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	61	54
3. Brain. Spinal Marrow, Nerves, and Senses	122	141
4. Heart and Bloodvessels	42	40
5. Lungs, and other Organs of Respiration	198	243
6. Stomach, Liver, and other Organs of Digestion	64	67
7. Diseases of the Kidneys, &c...	12	13
8. Childbirth, Diseases of the Uterus, &c.	5	9
9. Rheumatism, Diseases of the Bones, Joints, &c.	8	7
10. Skin	0	
11. Old Age.....	62	73
12. Sudden deaths	3	14
13. Violence, Privation, Cold, &c.	25	37

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	10	Convulsions	46
Measles	12	Bronchitis	85
Scarlatina	42	Pneumonia	86
Hooping-cough ..	68	Phthisis	140
Diarrhœa	20	Dis. of Lungs, &c..	7
Cholera	9	Teething	12
Typhus	46		
Dropsy	27	Dis. of Stomach, &c.	4
		" Liver, &c...	13
Hydrocephalus....	34		
Apoplexy..........	23	Childbirth	1
Paralysis	25	Uterus............	2

Remarks.—The total number of deaths was 86 *below* the weekly winter average. The deaths from cholera were 9, showing a decrease of 6 on the preceding week.

NOTICES TO CORRESPONDENTS.

The communications of Dr. Cormack, Mr. Whitehead, and Mr. H. G. Potter, have been received, and will be inserted.

The papers of Dr. Rowland and Dr. E. A. Parkes are unavoidably postponed until next week.

The Report of the Liverpool Pathological Society will appear in the following number.

Mr. Dawson must address his correspondence to the parties of whom he complains.

Mr. Hicks's request shall be attended to.

Dr. Dick.—We regret the mistake. Inquiry shall be made.

Corrigendum. — In the leading article of last number, p. 463, 4th line, for "exposes," read "expose."

THE GENERAL INDEX.

We have to announce to our Subscribers that a General Index to the *first* 40 *Volumes* of the London Medical Gazette will, it is calculated, form a large Volume of about 700 pages. The cost of the Index Volume, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. Wilson and Ogilvy, 57, Skinner Street, will receive the Names of Subscribers.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

By Bransby B. Cooper, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture LII.

Genital Organs (continued).—Hæmatocele—*Its characteristics—rapid formation—symptoms—cause—treatment—cases—Hæmatocele of the spermatic cord—very rare—case—treatment—diagnosis sometimes difficult from complications—case.*

Hydrocele in the Female—*in tunica vaginalis of the round ligament—symptoms.*

Chimney-sweepers' Cancer—*character of the disease — generally confined to the scrotum—progress of the disease—seldom attacks any but chimney-sweepers—diagnosis—treatment—cases.*

Elephantiasis Scroti—*almost peculiar to tropical countries—characters of the disease—identical with similar affection in the leg—diagnosis—medical treatment—surgical operation.*

Prurigo—*chiefly a disease of old men, but sometimes arises from the presence of ascarides—treatment—Sloughing of the scrotum—from external injury or injections in hydrocele.*

Hæmatocele of the spermatic cord, generically, would imply effusion of blood into the tunica vaginalis of the cord; it is, however, of extremely rare occurence, in consequence of the small space within the tunica, and its slight liability to external injury compared with the tunica vaginalis of the testicle. Mr. Pott, however, has related some cases; I have myself never seen one, excepting under the form of diffused hæmatocele, when the extravasation of blood takes place either between the tunica vaginalis and the vessels of the cord, or between the tunica vaginalis and the fascia spermatica; but the distinctions between the two situations in the living subject I should think could not be diagnosed. A gentleman, in straining to pull on a new pair of boots, experienced a sudden pain in the spermatic cord; swelling rapidly followed, and he immediately consulted me under the belief that he was the subject of rupture. The fluctuating character of the swelling, the absence of any distension into the inguinal canal, and at the same time an ecchymosed appearance, which had already commenced, led me to suspect the real nature of the accident. I recommended him to remain in the recumbent posture for a few days, applied a few leeches, and afterwards a stimulating lotion, and the fluid was shortly completely absorbed. The physical conditions of a hæmatocele, and even of hydrocele, especially if encysted, so closely resemble each other, and so closely assimilate to hernia, that it is sometimes impossible to distinguish the one from the other by their external qualities only, and a just conclusion can only perhaps be drawn by exploration. It may appear to you, gentlemen, that such a mode of procedure can hardly be required; but imagine a patient with of one of these anomalous tumors, and concomitantly with it an obstructed state of the bowels, it becomes at once imperative to ascertain whether or not that obstruction depends upon physical constriction; for if so, nothing but an opiate can be effectual in relieving your patient; while, on the contrary, if, by exploration, you discover that the tumor is unconnected with the disturbed function of the bowels, you are then justified in trusting to constitutional remedies. These considerations lead me to speak of the various complications to which hydrocele, hæmatocele, and hernia, are liable. For instance, a patient may be the subject of hydrocele, either of the tunica vaginalis testis, or of the spermatic cord, and at the same time be the subject of hernia. He may be the subject of a hernia, under which circumstances a blow upon the scrotum may cause the complication of hæmatocele with the hernia. Or the three may be coexistent. In such cases of complication the diagnosis becomes excessively difficult, as the physical conditions of each more or less present themselves, and tend to produce great confusion and uncertainty. I have myself met with these difficulties: I was once performing an operation on a man in Guy's Hospital, who had a tumor in the right inguinal canal, which, from his symptoms, and the physical character of the tumor, I had no doubt was a bubonocele: in the course of the operation, on laying open the sac, a large quantity of fluid escaped, and an undescended testicle (a circumstance which I had not before ascertained) presented itself: the existence of these conditions was not, however, sufficient to account for the symptoms; but on passing my finger to the neck of the sac (the tunica vaginalis) I discovered a portion of constricted intestine: I divided the stricture, and returned the intestine into the abdomen; but the patient subsequently died of peritonitis. In fact, in speaking of the complications of hernia with hydrocele, hæmatocele, and with diseases of the testicle, so great variety of complications may occur as to render it absolutely impossible to describe each separately; nor do I believe that you, gentlemen, would derive any benefit from such an attempt, as the only means by which you can arrive at a just estimation of the peculiarities of any case that may be presented to your view must be from your own scrutinous examination of every physical sign, and deep attention to each constitutional symptom which may be present, so that you may be enabled to form a diagnosis; and should these difficulties be insuperable, there is nothing left for you to do but explore carefully the abnormal protrusion.

Hydrocele in the female.—As the round ligament of the uterus is furnished with a covering of the tunica vaginalis, in the same manner as the spermatic cord in the male, there can be no doubt that this serous covering is liable to similar diseases in both sexes, although it is much less frequent in the female, in consequence of the small size of this structure. The symptoms arising from such a disease are precisely similar to those already described—would afford the same difficulties in diagnosis—require the same means for relief—and permit, therefore, of no further description than has already been detailed in reference to this morbid condition in the male subject. Œdema of the round ligament, sometimes called diffused hydrocele, must also occasionally occur, as in the male, when there is a general anasarcous tendency, or any mechanical obstruction to the circulation interferes with the nutrition of the part. An encysted hydrocele may also form, and a blow must be liable to produce a hæmatocele: as I have never myself seen any of these affections in the female, I merely speak of them as incidental to the tissues entering into this composition of the structures, and not from my own experience.

Chimney-sweepers' or soot cancer.—I cannot believe that the term cancer is strictly appropriate to this disease; for although it is true that a patient who is the subject of this local affection must have a predisposition to its development, still few cases are recorded in which it has arisen from any other exciting cause than that produced by the irritation of soot. It may, however, be fairly conjectured, that where a malignant diathesis prevails, the continued irritative influence of such a substance as soot may produce a malignant local development. Still, however, a mystery is involved in such a view; for as the whole surface of the body is more or less subjected to this source of irritation, it is difficult to understand why the scrotum more than any other part should so invariably become the seat of the disease: to this, however, the answer may be, that the rugous and delicate character of the skin, the size and number of the follicles with which it is furnished, and perhaps its pendulous position, and being usually in a moist state, may tend to render it more than any part of the body susceptible to diseased action as the result of continued irritation. A very similar disease is prevalent in the West Indies, under the name of sun-wart: this disease attacks the face in old people, and usually makes its appearance in the wrinkles and furrows which naturally harbour perspiration, and in which the follicles are larger and more numerous than in other parts. Chimney-sweepers' cancer is a very rare disease, and is but seldom met with even in the class to whom it may be almost considered peculiar; soot, therefore, must be looked upon, not as possessing any particular property of producing this carcinomatous affection, but as merely determining or exciting the action in individuals in whom there exists a malignant constitutional tendency. In support of this view, I may adduce the circumstance of soot cancer appearing in some cases to be hereditary; and, among many others, an instance is mentioned in which Mr. Earle removed the disease from a chimney-sweep in St. Bartholomew's Hospital, whose grandfather, father, and brother, had all died from its effects. The disease commences under the form of a small tuberculated growth called "soot-wart." The development of this takes place but very slowly, and years sometimes elapse before any great change can be observed in it. After a time, however, other similar pimples are formed, and these ultimately run together and constitute a large irregular warty excrescence, from which a thin fluid exudes, soon causing the morbid growth to be covered with a scab. Ulceration now shortly sets in, coverting the scab into an open sore, which possesses all the characteristics of true cancer. Severe lancinating pain is experienced in the parts, and extends upwards into the groin, and the disease sometimes involves the glands of the groin, and the lumbar glands, but this is not an invariable feature of its progress; the ulceration proceeds, however, to the neighbouring structures, extending to the groin, abdomen, and downwards to the thigh. Violent darting pains and a pricking sensation attend all the steps of the complaint. Repeated hæmorrhages occur, from the giving way of small vessels, and in some instances it has been known that the ulceration has reached the large vessels of the thigh, in which case the profuse hæmorrhage has caused immediate death, but more generally the inevitably fatal termination ensues rather from the destruction of the constitutional powers of the patient under the prolonged suffering and irritation to which he is subjected. It is remarkable that the progress of cancer of the scrotum differs materially in one respect from ordinary cancerous affections, its effects being chiefly confined to the tissues and structures immediately around it, and it does not to the same extent possess the tendency to propagate itself to distant organs through the medium of the lymphatics; and although, as I have remarked above, it does sometimes involve the inguinal and lumbar glands, this is generally a very late symptom; and, therefore, early extirpation in this disease offers a much greater chance of ultimate benefit to the patient than in any other species of malignant development; indeed, where the disease has reappeared after the operation, it has generally not been in the cicatrix of the old incision, but in its neighbourhood, and ought perhaps rather to be regarded as a fresh attack of disease, than renewal of an old one, the second, as the first, depending upon the peculiar diathetic tendency of the individual exposed to the exciting cause of the disorder.

The following cases will illustrate the usual progress of the disease. The first is quoted by Mr. Curling:—

Wm. More, chimney-sweep, æt. 51, came under the care of Mr. Curling, in 1843, for a painful swelling in the groin. He had been affected with chimney-sweepers' cancer for many years. In 1821, a portion of his scrotum thus affected was excised at St. Bartholomew's Hospital, and he had afterwards undergone two other operations in that hospital, in consequence of a return of the disease. Another part of the scrotum was afterwards removed at Guy's Hospital, and a further portion of the integument was excised by a surgeon in the City, making altogether five operations. There was a tumor in the groin, which was soft in the centre, and fluctuated, but had a very indurated base, and the patient complained of experiencing pricking and shooting pains in it. This swelling in the groin, which was evidently of a carcinomatous character, had only existed for a few months, though the disease in the scrotum had commenced two-and-twenty years before.

John Hooper, a chimney-sweeper, æt. 34, came into Guy's Hospital in 1846 with cancer scroti. About eight months previously a wart appeared on the scrotum: this soon became painful at night, ulcerated, and gradually increased in size, until it was as large as a five-shilling piece. The ulcer was excavated in the centre, the edges being everted, ragged, and very hard: the ulcer discharged a thin, fœtid, sanious fluid, and the patient suffered acute lancinating pain. In August the disease was removed by excision. During the process of healing the wound was forced open by the descent of an old hernia; but early in September he left the hospital cured.

James Steward, æt. 31, chimney-sweep, admitted into Guy's Hospital with cancer of the scrotum. Three years before, he first observed two or three small pimples on the anterior part of the scrotum. These excited much itching, and in scratching them he rubbed off the skin, when they began to discharge a thin, watery, yellowish fluid, which was occasionally very fœtid. About nine months after the pimples first appeared, he applied hydrochloric acid to one of them, which began from that time to increase with great rapidity, the discharge also becoming more profuse. There was, at the time of his admission, an excrescence the size of a half-crown, resembling hypertrophied granulations, the edges turned over and everted, and discharging a thin, puriform, offensive fluid. The excrescence was completely detached from the testicle, the scrotum alone being the seat of the disease. There were small spots on other parts of the scrotum covered with a dark-coloured incrustation, and severe darting pains were experienced in the parts. The disease was removed by operation, two or three small warts being extirpated singly. The wound soon healed by granulation, and in the course of a month after the operation he left the hospital cured.

Charles Evans, æt. 28, admitted into Guy's Hospital, 1840: a chimney-sweeper, of cachectic diathesis, the subject of cancer scroti. Two years ago he was in the hospital for the same disease, when one side of the scrotum and the testicle, which was also diseased, were removed by Mr. Morgan. After the operation, he returned to the exercise of his trade, and the disease had again made its appearance about two months before his second admission into the hospital. The scrotum was now much indurated, and about the centre there was a kind of sinus, from which a serous fluid exuded. The testicle was adherent; the patient suffered much from acute lancinating pain, extending up the inguinal canal, and from pain in the loins. An incision was made in the scrotum: this relieved the pain, and for some time puriform matter was discharged; it ultimately, however, became sanious, and the pain returned. This case was discharged without operation, as the spermatic chords (and probably the lumbar glands) were affected, and the operation was therefore deemed useless.

Thomas Morris, a chimney-sweeper, æt. 36, was admitted into the hospital, 1845, with cancer of the scrotum; was of intemperate and dirty habits, washing only once a week. About sixteen years before, he was operated on in St. Thomas's Hospital for the same disease. Some time after this, several horny excrescences grew from the scrotum, just below the cicatrix of the old wound. One of these bodies was as large as a finger, curving downwards; the others were much smaller: they were removed about a year before his admission into the hospital, according to his description, by caustic. The wound never healed. On the right side of the scrotum was an ill-conditioned sore, extending from the raphe to the integument of the thigh: it consists in great part of warty granulations, and towards the edges it was ulcerating: the discharge was thin and fœtid. The patient left the hospital without allowing the disease to be removed.

John Sullivan, æt. 35, admitted into Guy's Hospital with chimney-sweepers' cancer. About nine months before had been under Mr. Morgan's care for the same disease, at which time the left testicle was removed by operation. He left the hospital before the wound was completely healed, and returned to his business; but, not being particular in keeping the dirt and soot from the part, the disease soon began to increase. When admitted into the hospital there was a large irregular sore, with hardened and ragged edges, occupying the whole of the left side of the scrotum, and exuding a thin, watery, fœtid matter. There was a fistulous opening through the lower and under part of the urethra, through which all the urine flowed: the orifice of the urethra was closed by dirt and filth. Shortly after his admission the right testicle became affected, the ulceration having extended through the septum; there was a most intolerable sensation of itching all over the surface of the sore. The spermatic cord was healthy, but there were two enlarged glands in the right groin. Palliative treatment was adopted, but no operation attempted. He died from exhaustion about four months after he entered the hospital. On a post-mortem examination, it was found that the ulceration had extended downwards towards the perineum, laterally to the groin, laying open the urethra, and upwards to the pubes. The two enlarged glands in the groin presented a strumous appearance when cut into: the liver was easily broken down; the kidneys hypertrophied, and full of numerous suppurating points on their surface; the bladder was distended, and the urine it contained turbid, and mixed with shreds of albumen, mucus, and pus. There was no enlargement or apparent affection of the glands, with the exception of those already mentioned.

Edward Anderson, æt. 66, chimney-sweeper, taken into Guy's Hospital for cancer scroti: fifteen years before he had been operated on by Mr. Green at St. Thomas's, when an ulcer about as large as a shilling was excised from the scrotum. The wound soon healed, and he remained free from any return of the disease for twelve years, when a small pimple appeared on the right upper arm. At the time of his admission he had an ulcer on the under and front part of the arm, about as big as a half-crown, and with raised and hardened edges. This was very painful: he had also another ulcer, about the size of sixpence, upon the under part of the prepuce: it had commenced as a wart about ten months before. Zinci chloridi with starch was applied to both ulcers, and that on the prepuce soon appeared to be completely cured; on the arm the ulcer had a healthy aspect. Opium ointment was applied to it: he refused to submit to an operation. Zinci chloridi continued, and the sore apparently healed, so that he was discharged from the hospital.

Some of these cases are unsatisfactory, inasmuch as they give no history of the termination of the complaint; but they nevertheless serve to illustrate the progress of the disease, and the general effect of the treatment employed.

Diagnosis—The diagnosis in this disease can seldom, I think, be attended by much difficulty. In the cases I have witnessed, the peculiar character of the tumor has been well marked, and the appearance and general features of the disease are so remarkable that it can scarcely be mistaken for any other: the history of the complaint, and the occupation of the patient, will also serve to facilitate the diagnosis. In investigating a case, it should not be forgotten that this disease sometimes makes its appearance many years after the individual has ceased to be exposed to the influence of soot; and there was lately a man in the University Hospital who was the subject of this disease, but who had given up the occupation of a chimney-sweeper 20 years previously. There is also mentioned by Mr. Curling, the case of a sailor, who had been apprenticed to a chimney sweeper, but who had been a seaman for 17 or 18 years, when at the expiration of that time the affection became developed.

Treatment.—In this, as in all affections of a similarly malignant character, medical treatment can do nothing more than alleviate the sufferings of the patient.

Extirpation offers the only chance of permanent benefit, and this ought the more readily to be resorted to, as there is less chance of the return of this than other cancerous diseases after operation. Alterative remedies, such as iodine, sarsaparilla, and opiates to relieve the pain, and diminish the tendency to ulceration, when that process has commenced, are also indicated; and as there is usually a peculiar fœtor emitted from the sore, I have found weak solutions of chloride of zinc not only useful in removing it, and improving the condition of the ulcer itself.

The only effectual means of treatment, however, in my opinion, can be found in the early removal of the wart, before it proceeds to ulceration: entirely removing, if possible, the patient from the influence of soot, so as to prevent the exciting action of that substance upon a constitution already shown to be susceptible to its baneful effects.

Elephantiasis scroti.—This disease appears to be almost entirely confined to the inhabitants of warm climates: it is frequent in different parts of Asia, Africa, and Egypt, and among the negroes in the West Indies, especially in Barbadoes. Some instances of this complaint have, however, occurred in Europeans, and there is in the museum of the College of Surgeons, a tumor weighing 45 lbs., removed by Mr. Liston, at Edinburgh, from a young man aged only 22. These tumors often attain an enormous size: they vary much in form, but are generally large towards their inferior extremity, being attached to the pubes by a narrow neck: in some parts of their surface they are hard and unyielding to the touch, while in others a sensation of fluctuation may be detected. There is no appearance of inflammation, but the skin becomes much thickened and distended, and is sometimes covered with a yellow scab and superficial ulcers. The spermatic cords and testicles usually remain unaffected, the latter retaining their former integrity, and, when the tumor is not of a great size, can be felt at its posterior part; but if it be very large, they become lost in the mass.

As the tumor increases, the penis becomes involved, and is enveloped and hidden in the surrounding integuments: the prepuce is obliterated, and the only trace of the penis is found on the anterior part of the tumor,—as a mere orifice from which the urine trickles, without forming a jet. The remote cause of these tumors is unknown: they often follow blows upon the scrotum, and are generally developed very slowly, acquiring gradually a bulk and weight which interferes with every motion of the patient, after proceeding to such an extent as to render life perfectly intolerable.

Elephantiasis of the scrotum appears to be identical in character with the morbid condition not uncommon in the legs, among negroes in the West Indies. A similar affection also attacks the labia pudendi in females in tropical countries, although the enlargement does not in that case occur to anything like the same extent as when the disease is seated in the scrotum. The true nature of this disease is not as yet by any means understood: by some surgeons it is attributed to inflammation of the lymphatics; by other- to some affection of the venous system: these views are, however, neither of them satisfactory nor sufficient to account for the peculiar features of the complaint. It is remakable that it produces but little effect upon the general health of the patient, the constitutional powers remaining for many years uninjured, although the patient is exposed to the constant inconvenience of having an immensely enlarged scrotum, in some cases weighing more than a 100 lbs.

In the diagnosis of elephantiasis scroti there can be but little difficulty, the only affection for which it can be mistaken is œdema of the scrotum, and this only in an early stage of the disease. I have myself never seen a case of this disease in the scrotum in a European, but have several times met with albuminous effusions in the lower extremity, in which it seems as if the fluid coagulated within the cellular membrane, instead of constituting common œdema; and although the enlargement of the limb in these cases has never approached in extent that in "Barbadoes leg," still the natural symmetry has been so completely lost, and the skin rendered so pachydermatous, that it was impossible not to detect the typical character of elephantiasis; and I think I have observed that the persons obnoxious to this disease have all been of a phlegmatic temperament; such in fact as are prone to anasarca, with this distinction only, that the effusion has become coagulated instead of remaining fluid.

The treatment which I have followed in these cases has been that recommended by Baron Larrey—viz. the administration of small doses of tartarized antimony, and at the same time the application of pressure to the part. I have, however, generally combined with the tartarized antimony small doses of colchicum and blue pill, and have found the treatment so invariably effectual, that I doubt whether if cases of elephantiasis were early treated in this manner they would not be found less irremediable than they prove when allowed to proceed to the immense growth to which they are susceptible, which is alone sufficient to render their removal the only means of cure.

Many cases are recorded of the successful extirpation of these enormous tumors. The danger of the operation depends upon the loss of blood and upon the sudden division of the spermatic chords and penis, when the genital organs are removed with the tumor; and it is upon the latter danger that my mind so much dwells. I am of opinion the organs of generation should always be if possible saved, not that I should think of first dissecting them out, but as they are invariably surrounded by a mass of adventitious growth, I should be disposed to make a deep and large anterior and posterior flap with a long and sharp-pointed knife, and having secured the bleeding vessels, examine for the situation of the organs of generation, separate them from their deep connection with the tumor, and then remove the whole of the morbid growth below, leaving the dissection of the disease still surrounding the genital organs for the second step in the operation: this would consist in adapting portions of the flaps left as coverings to the genital organs, removing the superfluous mass of integument. I witnessed the operation performed by Mr. Key, in the case of Hoo Loo, and certainly the impression on my mind was that the immediate cause of death arose from powerful constitutional impression made by the division of the spermatic chords, rather than from loss of blood: the plan which is to be adopted must always depend, however, upon the peculiar circumstances connected with each case.

Another disease to which the skin of the scrotum is liable, is a papular irruption termed Prurigo, to which old men are particularly liable. It creates the most painful itching, and indeed may be considered more troublesome than dangerous, arising frequently from some intestinal irritation, and if attacking younger people, almost invariably depends upon ascarides, and therefore remedies should be first given to ascertain whether worms are present. If it cannot be proved that the disease is produced by the presence of worms, or if the removal of that source of irritation does not cure it, alterative remedies should be prescribed, and mercurial ointment, as a local application, is frequently recommended. I have, however, found the following lotion much more effectual than ointments of any description:—℞ Potassi Sulphuret. ʒj.; Liq. Calcis, ℥viij. M. Ft. lotio sepæ applicanda.

One certain benefit will be derived from the lotion—viz. the almost total cessation of the painful itching; and excepting in very old people I have rarely found the application prove ineffectual. I once saw a disease in the scrotum, in a man of peculiar gouty diathesis, which I believe to be extremely rare: it consisted in numerous tubercles, developed on the surface of the scrotum, and filled with chalky concretions, precisely similar to those deposited in the joints of gouty people, and, what was singular, the patient was much relieved in his general health as soon as these depositions took place in the scrotum. Colchicum and purgative medicines were prescribed, but no surgical means were employed beyond turning out the most prominent masses of concrete matter, as the ulceration of the skin exposed them.

Sloughing of the cellular membrane of the scrotum is of frequent occurrence, owing to the great laxity of the tissue, and this very frequently follows external injury and the inflammation produced by injections in hydrocele; but the only circumstance worthy of remark in these cases is the facility with which the part subsequently heals after the sloughs have been thrown off.

USE OF COLLODION IN THE ARTS.

A VERY beautiful invention was introduced by M. De la Rue at the Royal Institution, on Tuesday evening last. It consisted in the application to the surfaces of paper, and of articles in papier maché or gutta percha, of a thin layer, in the form of a varnish, which, on the principle of the thin plates of Newton, presented the most splendid colours of the spectrum. On some dark surfaces of paper, the green and red colours were more brilliant than they are seen in the best specimens of pearl. The thin layer appears to be firmly adherent, and not easily removable by friction. It is proposed to apply this invention to paper-hangings and other ornamental purposes in the arts.

The nature of the preparation used by the Messrs. De la Rue did not transpire, but we have found that collodion, or an ethereal solution of gun-cotton, will produce the effect; and, doubtless, by diluting the solution with ether, so that the thinnest possible film may be deposited by evaporation, plates of inconceivable tenuity, and capable, according to their thinness, of reflecting any of the colours of the spectrum, may be obtained.

The colours are produced, as in the soap-bubble, by the decomposition of light through thin plates. The thinness required for their production varies with the material. Thus there is one degree of tenuity for air, another for glass, and a third for water. Taking a plate of glass as the medium of comparison in this case, it requires, in order to reflect the *blue* colour, that the plate should have the thinness of about the 1-2,000 000th of an inch; in order to produce the red, about the 1-6,000,000th of an inch; and the green, the 1-10,000,000th. The experiment may, therefore, easily fail by reason of the film being too thick.

M. De la Rue's invention has been made the subject of a patent. The relative cost was not stated.

We have found that an ethereal solution of gun cotton may also be used with great advantage as a preserving varnish for notes or memoranda written in pencil. The pencil marks, when covered with this solution, cannot be erased by caoutchouc. In the same way the solution may be employed by draughtsmen for the preservation of pencil sketches or drawings. The rapidity with which it evaporates, and the impermeability of the dried layer of collodion to moisture, will render it a useful liquid for the artist.

Original Communications.

REMARKS ON OBESITY.

By John Richard Wardell,
M.D., Edin.

[Read before the Western Medical and Surgical Society of London.]

[Continued from p. 498.]

There has been amongst pathologists considerable diversity of opinion relative to the real manner in which fat is formed; some contending for its being deposited in the filamentous texture; others that there is a tissue proper for its formation; and one writer imagined fat to be a solid, constituted by the juxta-position of granular particles, without any investing or interposed membrane: an opinion which microscopical observers have decided as erroneous. Fat vesicles are spherical or spheroidal, or sometimes, when dependent upon pressure, assume polyhedral figures. Dr. William Hunter gave it as his belief that there was a distinct adipose tissue, to which way of thinking Bichat, Beclard, and others, subscribed; whilst Majendie, Haller, and certain other eminent authorities, considered fat merely as deposition in the cellular structure. Dr. Williams considers the Hunterian doctrine on this point most tenable, and indeed such seems now to be most generally admitted. Wherever there is the greatest abundance of cellular tissue, there we find the largest quantities of fat, and by far the most in the subcutaneous, in the interstices of the muscles, and those other localities favourable to its formation, which have been mentioned above. It has been satisfactorily shown that fat vesicles *do* exist in the blood immediately before it passes from the thoracic duct into the general circulation; and as it is so generally and easily discovered in the blood, "it is probably partly received with the food," says a writer on this subject, "and partly formed by the process of secretion." If it be true, then, that fat-cells are transferred into the circulation from the ingesta, and that such cells are physically adapted for the process of assimilation, we can at once easily perceive why it is that fatty aliments so abundantly produce fat, as remarked of the Greenlander and the Esquimaux. It appears on certain accounts probable that such is more dependent upon the requisite elementary principles being supplied, from which the adipose secretions could with more facility be carried on than when the elaboration is from matters less assimilated in their constituents than in oleaginous compounds. The substance contained in fat vesicles consists of stearine, margarine, and oleine, the two first of which, when separated from the latter, maintain a formative shape of solid character, the latter remaining even at low temperature in fluidity. Each of these substances forms considerable proportions of carbon and hydrogen; therefore such food having an abundance of these elements will of course predispose to the generation of fat, such as various non-azotised compounds; that used as diet, the saccharine, amylaceous, oleaginous substances. Experiments made in the feeding of the lower animals have proved how the addition of sugar to their food favours the feeding process. For cane sugar, the following is the formula:—$C^{12}H^9O^9$; starch, $C^{12}H^9O^9$; here are then those indispensable elements in the formation of fat. Starch and sugar are the great sources from which fat is produced. Now if we have to abstract from starch $C^{12}H^{10}O^{10}$, 9 atoms of oxygen fat would be the result, as the latter is a formula for the substance. From this and other facts of a like nature, which might be given, it is incontrovertible that fat is produced by a deoxidating process on non-azotised materials. "Liebig has pointed out," says Turner,[*] that "when there is a deficient supply of oxygen, the production of fat, which is the consequence of this deficiency, yields a supply of that element, and thus seems to keep up the animal heat and the vital functions. * * * "A goose tied up, and fed with farinaceous food altogether destitute of fat, acquires in a short time an increase of weight of several pounds, the whole of which is fat. "Again, the bee produces wax, a species of fat, from pure sugar." The negroes of the West Indies, and the Chinese slaves, sometimes acquire an enormous size during the sugar season, by drinking the cane juice; and it was remarked by Galen, that the keepers of vineyards, who live on nothing but figs and grapes, become fat. The ladies of Tunis and Tripoli are fattened, to please their lords, with farinaceous food, and a seed called *drough*. Among the Asiatics there is a sect who pride themselves on their extreme corpulency: their diet consists of farinaceous vegetables, milk, sugar, sweetmeats, and ghee. They look upon corpulency as a proof of opulence; and many arrive at a great degree of obesity without tasting anything that has ever lived!* Numerous instances might here be supplied where great drinkers of malt liquors have attained to extreme degrees of corpulency. It is the opinion of some, that a century ago, fat people were then far more common than in these days, when the yeomanry and middle classes drank deep potations of malt liquors, instead of ardent spirits. The elementary constituents of ardent spirits being alcohol, and an abundance of carbon entering into the formation of that compound, there is thus supplied an important material for the generation of fat; and was it not for the stimulation which alcoholic liquors give to the circulating function, and the increased action of the kidneys, which thus oppose the obese tendency, all descriptions of spirituous compounds would render dram drinkers more liable to corpulency. Those persons who are great gin drinkers, are, from the diuretic properties of that spirit, less prone to become fat than those who are great rum drinkers; a fact which the vulgar have long ago observed, and which has amongst the lower orders passed into a truism. From what has been said above, it must be regarded that fat is secreted by a peculiar tissue, the adipose; and to this view most modern physiologists subscribe. Dr. Hassell, in a recent number of the Lancet, thus delivers himself relative to the fat formation. "It will be observed by the use of a lens only, that these masses (the fatty) are each composed of a number of distinct and opaque bodies of various sizes, presenting a smooth outline, having a more or less rounded or oval form, and held loosely together by fibro-cellular tissue, the extension of which forms the envelope that invests each of these bodies; it will also be further noticed, that each mass of fat is supplied with one or more bloodvessels, and that these break up into numerous lesser branches, one of which goes to each of the previously described bodies, being conveyed to it by the connecting fibrous tissue, and having reached the body it undergoes a further subdivision, the branches extending over its entire surface." The writer then proceeds to say that the vesicles are filled with cells, and these cells again with globules; that these globules go on becoming larger in size until they assume the normal characteristics of the matured fat vesicles. From these observations it is obvious there is a greater secernine process; that there is a filamentous investment covering each vesicle; and that the fat particles are not merely placed in juxtaposition, as contended for by Meckel; and it may be inferred that the granules are produced from the blood by an exosmosial process at the capillary extremities, like unto what we know of similar functions in the formation of other tissues in animals as well as in the vegetable kingdom.

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[*] Turner's Chemistry, p. 1220.

I shall now proceed to detail the particulars of a case of obesity, occurring in the practice of Dr. Browning Smith, which, from the enormous size that the patient acquired, the history of the disease, the persisting progress of the complaint despite of all remedial measures, together with other points of interest, must needs be considered as a remarkable example of the polysarcal affection:—Mrs. G., forty-one years of age, the wife of a green-grocer, of light complexion. Had not borne any children, but had a miscarriage soon after she was married,—nearly twenty-three years ago. At the age of eighteen she was very thin and delicate. In the course of a few years subsequent to that time she became considerably stouter, had more colour, and was of better health. Eight years ago this corpulency more rapidly increased, and continued to do so up to the time of Dr Smith's first attendance. For several years back she had eat and drank to a considerable extent, and on inquiries being instituted it was ascertained, that throughout the day she, at at short intervals, took some description of food or malt liquor. Though she never drank spirits to intoxication, she indulged in regular and frequent potations of gin. Latterly she took but little exercise, and seldom felt inclined for any active exertion: was of placid and kind disposition, and rarely allowed any circumstance to ruffle her mind; slept soundly, and often during the day would fall over into a transient slumber. Dr. Smith attended Mrs. G. in occasional illnesses during the last three years, and in the two first attacks of indisposition she was confined to her room. In these affections the symptoms of which she most complained were difficulty and shortness of breathing; of some pain over right hypochondriac region; great tendency to somnolency also existed, and there was a positive aversion to any active exercise. Catamenia were then abundant. Continued doses of saline aperients, a low diet, with the interdiction of fermented liquors, were in the course of a few weeks succeeded by manifest relief. In January, 1848, she again became ill, and her medical attendant was called in. Five weeks after this Dr. Smith requested me to see her along with him. At our visit she was raised in the semi-erect position, and on entering the room I was forcibly struck with the patient's enormous size; indeed, to such a magnitude had she attained, that it was no extravagant assertion to say, that she almost occupied three-fourths of a moderately sized bed. The mammæ had become so exceedingly large, as in a pendant manner to hang down the thorax, whilst the interior part of the cheeks, the throat, and about the submaxillary region, was so grown up and distorted with fat, as to have obliterated the natural configuration. The abdomen was of immense size, and hung over the anterior part of the thigh to a very considerable extent; the interior extremities were shapeless masses, resembling in magnitude that œdematous condition met with in anasarcal dropsy. It may here be mentioned, that from Dr. Smith's first attendance the tegumentary covering on inferior part of abdomen felt rough and indurated, imparting to the fingers a horny or scaly sensation. On inspection, an erythematic blush co existed, which in some parts had gone on to the vesicular eruption; and in the sulci formed by the flexures a serous exudation was manifest. Dr Smith said this erythematic affection was very persistent, and although it was at various times considerably diminished under the different local applications which he employed, yet he never could by any means, topical or general, entirely disperse it. The breathing was difficult and laborious, and she had a wheezing cough; her voice was unnatural, and when she spoke it reminded the hearer of any one speaking who had tonsillitis, or as if of a ligature being placed round the throat, the patient's larynx were compressed. There was a peculiar, sleepy, listless expression about the eyes, and the nurse reported, that when left alone she invariably passed into slumber. Pulse was full and strong, but from the interposed subcutaneous deposition of fat, unless the wrist were pressed rather strongly by the index finger, the pulse felt less forcible than it really was. Catamenia had some time ago ceased; the excretory evacuations were carried on pretty normally; the tongue indicated no fever, nor gave evidence of any gastric irritation. A constant employment of salines and diuretics was continued, and the requisite injunctions respecting a low and unnutritious diet. From this time (Feb.) until May, she continued much the same, progressively becoming larger, the breathing more difficult, and the somnolency more irresistible,—indeed it was evident the case was verging into one of hopeless character. Salines, nitrate of potash, elaterium, alterative doses of mercury, Dr. Smith had persisted in, but to no avail. On 27th May, Dr. Bright was called in, and I saw her in consultation with that gentleman and Dr. Smith. Dr. Bright suspected disease of the kidneys, and on testing the urine there was a slight quantity of albumen discoverable, which was, however, but slight. The abdomen was then measured, and around the umbilicus it was seventy two inches. Dr. Bright stated, that in one or two instances of this affection he had been of opinion that the preparations of iodine were of service, and especially the hydriodate of potash; consequently it was directed that the drug in question be tried, and she was ordered two grains of hydriodate of potash, with half a drachm of the tincture of hyoscyamus, in cinnamon water, to form a draught, three times a day. That medicine was persisted in for some time, but apparently without producing the least effect. She gradually became worse, increased in size, somnolency more persistent: at length the breathing alarmingly difficult; the countenance looked livid and congested; and, lapsing into a lethargic condition, she died, with the symptoms of complete coma, on the morning of July 1st.

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* Cyclop. Pract. Med. vol. iii. p. 192.

Sectio cadaveris, 12 *hours after death.* — Cutaneous surface in some parts livid, especially at flexures of inferior extremities. On raising up pendant abdomen much lividity was apparent, particularly at mons veneris and about the labia; it also extended to abdominal parietes. On those parts there was a sero-purulent secretion. Face congested, and from nares freely distilled a frothy brownish fluid. The following are accurate admeasurements of various parts:—

	Inches.
From nipple to nipple	14
Girth of chest to immediately below axillæ	56
„ abdomen, passing over umbilicus	77
„ upper arm	17½
„ ankle	15
„ calf of leg	21
„ middle portion of thigh	28
„ round upper portion of thigh	43
Depth of body as laid on back	23½

Carrying down an incision in the ordinary manner at the mesial line, from upper third of sternum to pubis, the subcutaneous stratum of fat over sternum was four inches deep! and midway between umbilicus and pubis it was no less than eight inches thick! The section presented a surface of coarse fat, and on minute examination small ramified vascular branches accompanied the filamentous tissue, which had assumed a thick and resistive texture. Removing the sternum, the lungs were somewhat mottled of the light grey colour which characterises emphysema. Both were throughout agglutinated to the pleura costalis, which soft, easily-lacerable bonds of union readily gave way, as the hand, edgewise, was slid up between these organs and the thoracic walls, and the resistance was scarcely so much as that which attains where deposition of lymph is very recent. On examining portions of this interposed matter we were at once satisfied of it, it consisting of scarcely anything but fat. The pulmonary organs were larger than natural, but with such increase of volume and the previously mentioned emphysematous appearance anteriorly, no other pathological conditions were apparent. Opening the pericardium, three or four drachms of straw-coloured serum escaped. Heart considerably larger than normal, weighing (exactly as it was removed,) 1 lb. 12oz.* The right ventricle was well-nigh covered with a coat of fat varying from one to three lines in thickness, and which, on being torn off, indefinably blended with the muscular tissue,—that is, by the transition of the muscular fibres, first into a pale opaque substance, then insensibly passing on to veritable fat.† Walls of all the cavities were hypertrophied, those of the right ventricle being four lines in thickness, and in the left measured nine lines. Edges of valves felt soft and fatty, and corpora arantii, both at semilunar and pulmonary, were more tuberculated than normal; and on the point of a scalpel being applied, the increase of these bodies was caused by the deposition of fatty matter, and it easily broke down between the fingers, being of far softer consistence than the vegetations sometimes met with at the apices of these organs. Exposing the abdominal viscera, which, however, could only be imperfectly done, notwithstanding the mesial incision having been carried down quite to the pubis, from the enormous thickness of the parietes, the organs were completely agglutinated by (lost in) huge masses of fat. The omentum was of enormous size, and from it proceeded prolongations of pure fat, thick as a moderately sized candle, from one to four inches in length: the appendices epiploicæ had become so morbidly large and expanded as to almost cover the large intestine. Liver was by the same substance adherent to concave surface of diaphragm, weighed 7 lb. 6 oz., was of a pale yellow brown, and sections showed its parenchymatous structure to have degenerated into that pathological condition known as the nutmeg character. Spleen was greatly enlarged, weighing 1 lb. 7 oz., and on being cut the surfaces showed its colour to be preternaturally dark; it was assuming the jammy consistence, and a semifluid matter followed the knife, a good deal resembling what is observed in autoposies when the patient has died from fever distinguished by intermittent symptoms. Right kidney encased in a nidus of bright yellow fat, which covering alone weighed 13 oz., and the kidney itself 12 oz. On longitudinally dividing the organ, disease of the cortical substance was abundantly manifested, the granular degeneration being most complete, and descending deepest into the medullary structure in its central portion. The same description applies to the left, only the morbus Brightii attained to a greater extent. Uterus and ovaries exceedingly small; the former felt hard and cartilaginous; its cavity was contracted.

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* The organ was then freed of coagula by washing, and on again being put into the scale it weighed 1lb. 10oz.

† A member of the Society, Dr. Seaton, expressed his regret that a portion of the muscular fibres degenerating into another tissue had not been microscopically examined. It would certainly have been of some interest; but in examining portions without the aid of a lens, it was discernible that the substance was deposited chiefly amongst the little filamentous investments of the muscular fasciculi.

27, Acacia Road, Regent's Park.

[To be continued.]

NOTICE ON THE CHOLERA IN RUSSIA IN 1848.

By Dr. Mackenzie,
Senior Surgeon to the Naval Hospital at Archangel.

[Continued from p. 502.]

Part II.

Morbid appearances observed during the prevalence of the epidemy at Archangel in 1848.

On the 8th July autopsia of the first case was made, being a strong athletic man, of 27 years of age.

Head and Spine.—The vessels of the brain congested with dark blood; in some places, under the arachnoid membrane along the convolutions of the brain, extravasation of blood; the substance of the brain exhibited the usual spotted appearance of congestion, with this difference, that the spots were darker and larger; in the lateral ventricles some reddish serous fluid; the lateral sinuses being opened, black and liquid blood to the quantity of a pint flowed out like a torrent; a quantity of serous fluid tinged with blood in the base of the brain.

The medulla oblongata and spinal marrow exhibited precisely the same appearance, being in a state of congestion, with extravasations here and there.

Chest.—Lungs by no means collapsed, but full of dark blood; extravasations of blood under the pleura pulmonalis; the surface of an incision presented a mottled appearance of very dark and of bright red patches; the mucous membrane of the bronchi was of a dark red colour. The heart was distended with blood of a dark, fluid, frothy appearance; the left auricle was only partially filled with blood; the thoracic surface of the diaphragm was of a bright colour, contrasting remarkably with the colour of the blood.

Abdomen.—The stomach, duodenum, jejunum, and ileum, presented a dirty, rose-coloured blush; the jejunum was of a deeper colour, and its coats were manifestly thickened; the stomach was marked by dark parallel lines extending from the small to the large curvature, corresponding to the course of the blood-vessels; the peritoneal coat on being pinched was more easily lacerated than in the normal state; it contained, as also did the intestines, small and large, a quantity of the rice-coloured fluid so characteristic of epidemic cholera; the mucous membrane of the stomach was intensely congested with blood, presenting one uniform dark red surface, in some places, indeed by patches, of a brighter red, approaching to excoriations, and covered by tenacious mucus. A portion of the mucous membrane being removed and washed, preserved its red colour; shewing, in my opinion, that it is a morbid lesion peculiar to epidemic cholera, and quite distinct from ordinary congestion. The mucous membrane of the intestines, as far as the valvula coli, presented, though in a less degree, the same morbid appearance. The cœcum, colon, and rectum, were void of blood, as well externally as internally. The liver was in a state of anæmia; the gall-bladder full of greenish brown-coloured bile; the spleen collapsed and void of blood; the kidneys were slightly congested, but otherwise quite healthy. The urinary bladder was very much contracted; it contained about an ounce of urine in appearance quite like the fluid contained in the intestines.

July 12th.—Autopsia of a female aged 23 years, who survived 15 hours after admission, and of a male who lived only 10¼ hours after admission, presented the same morbid appearances as the first case.

July 14th.—Two cases examined. First case, a spare, weak subject, who survived 24 hours: heart distended so much as to fill completely the cavity of the pericardium with jet black blood; lungs collapsed; stomach, duodenum, and small intestines, presenting every appearance of being inflamed; the mucous membrane of the stomach was thickened, and coated with ropy mucus.

Second case, seized whilst at work in the dockyard at 2 P.M., and died at 3 P.M. next day; morbid appearances of stomach and bowels as in the above case. Here the mucous membrane of the stomach presented a blueish colour; liver anæmic, spleen also; kidneys full of black blood, but in structure quite healthy; the large intestines for the first time observed in a state of congestion, or, as I would call them, inflamed: heart as in the above cases.

July 15th.—Two bodies examined. Morbid appearances the same as in the foregoing: a portion of the ileum presented in one of these a dark appearance of gangrene; in the other case, the stomach towards the pylorus presented red patches as if they had been caused by poison.

July 16th.—Four bodies examined. Morbid appearances uniformly the same as in the foregoing cases; lungs collapsed, and partially full of dark blood; liver anæmic; spleen collapsed. In one case the colon was found inflamed; in the other cases, the redness terminated abruptly at the termination of the ileum.

In the eleven cases which have been examined, the large intestines were found inflamed only twice, and in these cases there had been diarrhœa two or three days before the seizures; in all, the diaphragm was found of a remarkably bright red colour. I account for this red colour, as well of the diaphragm as of the stomach and bowels, by supposing congestion to have taken place before the blood had assumed a venous quality. The mucous membrane of the bronchi was in all of a deep dark-red colour.

From the 16th to the 20th of July, ten subjects were examined, in whom precisely the same morbid appearances were discovered. In one case only of these were the large intestines found injected with blood; this was in a lad 15 years of age; the bowel was of a dark colour, presenting every mark of inflammation; in all the ten cases the liver was found anæmic, as also the spleen; the kidneys were slightly congested.

July 20th.—The body of a middle-aged, robust woman, who had died so suddenly as to lead to the opinion that she had died of apoplexy, was examined.

Hyperæmia of the vessels of the brain; heart distended with black fluid blood, mixed with polypi; lungs collapsed and congested with blood; thoracic surface of the diaphragm of a bright red colour; liver hyperæmic, so much so, that on its being cut, dark blood flowed out in a stream; gall-bladder distended with dark brown bile; kidneys also congested; stomach and bowels as in the foregoing cases; large intestines of a pale opal colour; the spleen flaccid; all of which symptoms go to prove that she died of epidemic cholera.

July 28th.—Examined the body of a man who died 19 hours after admission. The usual appearances found; the mucous membrane of the stomach exhibited red patches here and there, which on close examination consisted of innumerable small red points; the liver was congested, the kidneys also; the spleen flaccid and collapsed; the upper surface of the diaphragm in the normal state; the lungs by no means collapsed, but full of black blood; the heart, which was found in a state of active dilatation, and the pericardium closely adhering to it, was distended with jet black, semi-coagulated blood, mixed with polypous concretions.

Autopsia of a patient who died in the typhoid stage of epidemic cholera. Hyperæmia of the vessels of the brain, the blood being dark; a considerable quantity of serum in the base of the brain; the substance of the brain, on being cut, exhibited the usual red points met with in cases of congestion of this organ; the left ventricle of the heart empty, and the right filled with dark fluid blood mixed with polypi; the lungs were not collapsed: the right was congested more from hypostasis;

the left lung presented, in its inferior lobe, red, mixed with yellow hepatization; the stomach was contracted to half its usual size, and its coats were greatly thickened; the mucous membrane of a dark red colour, having every appearance of intense inflammation; the mucous membrane of the small intestines in the same state as the stomach, though in a less degree; they were contracted in diameter, and their peritoneal coat was of a slight red colour; the liver was congested, and its substance darker than usual; the spleen was flaccid.

August 5th.—Examined the body of a choleric subject, who died within 24 hours. Discovered precisely the usual morbid appearances: the kidneys in this case were found in a state of anæmia; the colon was of a red colour; the diaphragm was normal.

August 15th.—Examined the body of a soldier who died in a state of reaction, on the fifth day of the disease, with every symptom of inflammation on the brain. Discovered the vessels of the brain, and of its membranes, injected with red arterial blood; effusion of serum under the arachnoid membrane; lateral ventricles full of fluid of a dark red colour; in the base of the brain a great quantity of serum tinged like that in the ventricles; the integuments of the scalp presented a bright red colour, as if they had been painted with vermilion; the lungs were healthy, the stomach also, which was of a darker colour than in the normal state: this was the case with the small and large intestines, which contained a quantity of mucus mixed with brown bile; mucous membrane presented reddish spots, which looked as if they had been during life on the decline; the liver, kidneys, and bladder were in a healthy state. This case impressed upon me the idea that the blood had been in a state of hyper-oxygenation.

August 18th.—A choleric subject examined, which presented the usual appearances. This is the only case I have seen, where the mucous membrane of the small intestines was found pale; the liver was anæmic; the spleen was flaccid and puffy, so as to present scarcely any signs of organisation.

August 25th.—Autopsia of a case which entered the hospital with choleric diarrhœa, and which lapsed into fever complicated with hepatitis and pneumonia, terminating in a typhoid state. Stomach healthy; small intestines, as well as large, of a black colour; the omentum without a vestige of fat, also of a black colour, adhering, though loosely, to the intestines; the large intestines were distended with gas, and their coats grown so thin and dry as to be in those places where they were not tinged with the pigment which gave them the black colour, semi-transparent; the ileum was matted together near the cæcum by an exudation of the same pigment; the mucous membrane of the small intestines was of a red colour; the pigment in question was hæmatosine to all appearance.

During these examinations we directed our attention to the state of the nerves, the solar plexus, and the pneumogastric nerves in particular; and all I can say is, that they exhibited the same congested appearance as the lungs and other organs: the heart was in structure uniformly soft, and easily torn; the left auricle always contained blood, but was never discovered full; the right auricle and ventricle were always distended, as also the left ventricle. Consequently the heart dies, or ceases, not because it cannot receive blood from the lungs, as happens in asphyxia from drowning, but on account of its nervous and muscular energy being exhausted.

I have observed the action of the heart cease before the respiratory organs, by twenty or thirty seconds.

In some cases the air seems to permeate the lungs freely, and the expansibility of the organs does not appear to be affected, whilst in other cases a collapse is detected by the stethoscope, and is recognised as being bronchial in the inferior and middle lobes. The diaphragm appears to me to be affected, if not paralysed—at least in many cases; the alarming oppression felt across the lower part of the chest appears to be owing to this cause as much as to pulmonary affections: the falling or drawing in of the epigastric region receives a ready explanation from the same cause.

To the best of my knowledge this explanation has occurred to me before; it receives support from the congested state of the diaphragm, as observed in so many instances. It will be observed, that the liver has been found in a state of hyperæmia but very seldom: this condition happens, it would appear from my observations, only in the most violent and suddenly fatal cases, where the vomiting and purging have been less copious, or have not had time to drain the portal circulation of its blood, (cholera sicca). The spleen was uniformly in a shrivelled, collapsed state. The mucous follicles of the gastro intestinal tract were not observed to be more affected than the mucous membrane in general. The most constant and serious lesion observed, was that of the stomach and bowels, the former in particular: if it cannot be called inflammation, congestion seems to me too mild a term. In every severe case the patient referred to this organ as the seat of his suffering, and after falling into a state of collapse, having become quite insensible to pain, even that from a red hot iron applied to the epigastrium, pressure made upon this region caused severe and sometimes intolerable pain. I look upon the stomach and bowels, therefore, as the organs upon which the action of the poison circulating in the blood is first and chiefly reflected.

Summary.—The following appears to me to be the order of morbid sequence in epidemic cholera as observed in practice:—

1. The blood is poisoned, and in consequence
2. the nerves, especially those of organic life, are affected in a manner peculiar to this poison, whereby the vital energies of the frame are depressed, the circulation languishes, the secretions and excretions are interrupted or impaired.
3. The stomach and bowels become congested, by which the energies of life are still farther depressed, not unlike those of the brain in apoplexy.
4. Congestions of the lungs follow, oxygenation of the blood is arrested, and caloric is no longer generated. The action of the heart now grows extremely feeble.
5. Venous congestions of the brain and spinal marrow succeed; at last, nature, overwhelmed, after having made vain endeavours to throw off the load of oppression, succumbs in the effort; the heart ceasing before the respiratory function.

The opinion entertained in this country, as expressed in the Military Medical Journal, published at St. Petersburgh, for June 1848—the organ of the medical profession throughout Russia—is, that *the blood is primarily affected*. Dr. Copland, the best writer on this subject, while he inculcates the doctrine of a diseased state of this fluid, is of opinion that the first morbid impression is made upon the organic nerves of the lungs, whereby the expansibility of these organs is impeded or destroyed, and the necessary changes in the blood prevented by reason of the sudden manner in which the poison has been observed to act.

With due homage to this great authority, I would observe, that this, after all, is a very negative proof, because we do not know with what rapidity the blood can be contaminated, whilst the slowness of its development in the majority of cases, showing decidedly a period of incubation, militates strongly against this idea; in fact it is very questionable if any poison is accessible to the nerves, except through the medium of the blood.

Before any symptoms appear of the respiratory function being in any degree disturbed, there are unequivocal signs, in most instances, of the gastro-intestinal tract being affected; indeed, cases occur, where the only symptom present is profuse watery evacuations, followed by syncope and death.

[To be continued.]

ON THE VALUE OF

HÆMOPTYSIS AS A SYMPTOM OF PHTHISIS

IN INDIVIDUALS OVER THE AGE OF FIFTEEN YEARS.

By E. A. Parkes, M.D.
Assistant-Physician to University College Hospital.

In Dr. Walshe's most admirable Report on Pulmonary Phthisis,* are some important conclusions, drawn from statistical observations, on the occurrence of hæmoptysis in phthisis. I have been for some time engaged in collecting observations on this point among the class of patients who present themselves for out-door relief at University College Hospital, and it may not be uninteresting to compare my results with those of Dr. Walshe, although they have no pretensions to the same amount of accuracy, or to be founded on an equally extensive basis of facts.

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* British and Foreign Medico-Chirurgical Review, Jan. 1849, p. 225.

These observations were made in the following way:—The age and sex of every fresh patient over the age of fifteen years was registered: the fact of hæmoptysis having occurred or not was ascertained by careful cross-examination, and the occurrence of this symptom was not admitted unless it was made out with tolerable certainty. If hæmoptysis had occurred, inquiry was made into its cause: if tubercles were detected, the stage of the disease, whether early (before softening) or advanced (after softening), was noted; if tubercles were not present, the presumed efficient cause was recorded, and the account of the case was taken as fully as time would permit. The quantity of blood lost was characterised as copious, moderate, and trifling. By the latter term I intended to imply streaks, or up to a teaspoonful or two. Instead of these phrases I shall employ Dr. Walshe's terms, of profuse, medium, and slight.

As I desired, for various reasons, to exclude children from this inquiry, I observed this symptom only in those who had reached the age of fifteen years and upwards.

In fourteen months, 1,162 patients over the age of fifteen years were thus noted. Of these, 1,017 had never had spitting of blood; 145, or 12·47 per cent., presented this symptom.

Of those who had never had spitting of blood, there were 341 males and 676 females. The average age of the males was thirty-four years, ten months; that of the females, thirty-four years, three months. The proportion, therefore, of males to females among the out-patients at University College Hospital (over the age of fifteen years) may be stated in round numbers as one to two,* and the mean age of both sexes may be taken to be thirty-four years, seven months.

Of the 145 patients who had had spitting of blood, 31 had phthisis in the first or early stage, 46 in the advanced stages (after softening), and 68 had no evident signs of tubercles. The proportion of patients with phthisis and hæmoptysis to those without hæmoptysis was 7·57 per cent., that is to say, among 100 out-patients at University College Hospital there were 7·57 recognised cases of phthisis with hæmoptysis.

1. Among the 31 cases of early phthisis, there were 12 men and 19 women, or in the ratio of 1 to 1·6. Among the 46 cases of advanced phthisis, there was 14 men and 32 women, or in the ratio of 1 to 2·28. Taking both classes together, the average of men to women is as 1 to 2 nearly; being the same ratio as that of the 1,017 patients without hæmoptysis. Therefore, among the class of persons who present themselves for out-door relief at University College Hospital, the number of those who present phthisical symptoms is proportionably equal in the two sexes.

2. Of the 31 cases of early phthisis, the average age of the men was 35 years; of the women, 29 years; of both sexes, 32 years. Of the 46 cases of advanced phthisis, the average age of the men was 36 years; of the women, 29 years; of both sexes, 32·6.

It thus appears, that, compared with the ages of the non-hæmoptoic individuals (thirty-four years, seven months), the great majority of whom were not phthisical (since hæmoptysis occurs in 81 per cent. of phthisical patients*), the hæmoptoic phthisical patients were more than two years below the standard; the mean of both sexes and of both classes being only 32·3. There appears, however, to be a curious discrepancy between the relative ages of the sexes, for the average of phthisical hæmoptoic men is actually eight months *above* the mean of the general class of patients, and the average age of the phthisical women is actually five years three months *below* the mean of the non-phthisical women.

3. The *quantity* of blood expectorated was stated, in the cases of early phthisis—

To have been profuse in 11.
To have been slight in 20.

So that the profuse bore to the slight

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* The excess of females is, I believe, observable in all the hospitals and dispensaries in London: it is not difficult to be accounted for.

* Walshe. Louis says hæmoptysis occurred in 57 out of 87 patients, or 65·5 per cent. Of the 57, 25 had copious hæmoptysis, or as 1 to 2·2.—*Researches*, &c. p. 167. Syd. Edit.

discharges the proportion of one to two nearly.

In the cases of advanced phthisis the quantity was observed in 40 cases.

It was profuse in	18
„ medium in . . .	4
„ slight in	18

So that, omitting the medium discharges, the profuse bore to the slight cases the proportion of 1 to 1.

These figures accord with Dr. Walshe's inference, "that hæmoptysis to a medium amount is less common than to a very slight or to a profuse amount." I make the loss to a medium amount still more infrequent than it appears to be from Dr. Walshe's numbers. There is perhaps some difficulty in estimating from the statements of patients the exact amount of hæmoptysis, unless it has been very profuse or very slight.

The figures also confirm Dr. Walshe's statement, that the hæmoptysis becomes more profuse in the two latter stages of the disease. Profuse bleedings are as frequent again in advanced as in early phthisis.

If both classes are taken together, the ratio of the profuse to the slight discharges was as 1 to 1·45.

Sex had the following influence on the quantity of blood:—

Of the eleven cases of profuse hæmoptysis in the early stage, there were five men and six women, so that (considering the relative numbers of the sexes in the thirty-one cases) the frequency was greatest in males.

Of the eighteen cases in the advanced stage, there were eight men and ten women: so that here also the males had slightly the advantage. Taking the two classes together, there were thirteen men to seventeen women, or as 1 to 1·3; whereas the ratio of men to women in the entire of both classes is as 1 to 2 nearly. Therefore, men appear considerably more disposed to profuse hæmoptysis during phthisis than women.

This agrees also with Dr. Walshe's result, "that very profuse hæmorrhage from the lungs is less common in phthisical[*] females than in males."[†]

4. Of the sixty-eight individuals who had had hæmoptysis, and who were supposed not to be tuberculous, there were nineteen men and forty-nine women, or in the proportion of 1 to 2·6 nearly. The women were thus relatively in excess. The average age of the men was 35 years,—that of the women 34 years, being nearly the same as the ages of non-hæmoptoic individuals.

The cases are thus distributed.

(*a*) In eighteen women there was manifest menstrual disorder, generally amenorrhœa. In fourteen of these cases the discharge was slight; in four profuse. In two of these latter cases, as the discharge seemed to occur periodically, it was termed vicarious menstruation. The average age of these women was twenty-six years and two months, being more than seven years under the average.

(*b*) There was heart disease (generally some valvular disease) in eleven cases—viz. in three men and eight women; average age of the men twenty-eight years and six months; of the women twenty-eight years. In the three men, and in six women, the discharge was slight; in two women, copious; the ratio of profuse to slight hæmoptysis was 1 to 4·5.

(*c*) In fifteen cases the only disease which could be made out was chronic bronchitis and emphysema, as a usual complication. Of this, there were five men and ten women. In the men, one discharge was profuse; the remainder slight. Among the women, two were profuse, and eight were slight. In both cases the ratio was the same—viz. as 1 to 4. The average age of the men was forty-one years and six months, being six years and six months over the average of the non-hæmoptoic males; the average age of the women was fifty-one years, being sixteen years and nine months over the average age of the non-hæmoptoic females.

(*d*) The remaining cases were the following:—In a girl of 17, who had profuse hæmoptysis, there was pertussis and pneumonia. In another girl there was also profuse hæmoptysis and coexistent pneumonia.

There were four cases of pulmonary apoplexy, all in males. A man of forty-seven years of age had had profuse hæmoptysis twenty-four years before: he had when I saw him no symptom of phthisis. Another man had ulcered throat, and though he stated positively that he had spit blood, it did not probably come from the lungs. Of five other men I have no account, except that tubercles were not diagnosed.

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[*] Op. cit. p. 245.

[†] I have taken the liberty of changing the word "hæmoptoic" to "phthisical." I do not know that the rule would hold good if women hæmoptoic from all causes were included.

Of the remaining eleven women, in six I have accounts of the cases in each; in none could I satisfy myself as to the existence of tubercles. If they existed, there were latent, *i. e.* produced no subjective symptoms, not probably even the hæmoptysis. One was a patient with rheumatism; two with gastrodynia; one with melœna; one with amenorrhœa of nineteen months' duration, the hæmoptysis having occurred two years before. In the sixth case there was enlargement of the cervical glands, apparently scrofulous, in a stout and o herwise perfectly healthy young woman, in whom a careful examination failed to detect any stethoscopic evidence of tubercles. In five cases no accurate records have been preserved. It will be advisable to exclude the case of the man with ulcered throat, and the ten cases (five men, and five women), which are not reported fully, on the ground that they may have had latent tubercles which were overlooked.

There will remain, then, fifty-seven persons—viz. thirteen men and forty-four women, in whom there was hæmoptysis without phthisis; or, 4·9 per cent. of the whole body of patients.

Between these cases, and those of hæmoptysis dependent on tubercle, there are several important differences.

Thus, instead of the sexes being relatively equal, as in the case of the phthisical patients, that is to say in the same proportion as among the whole number of patients applying for relief, the women have a great preponderance. This is probably to be attributed to the influence of disordered menstruation, as when these cases (18 in number) are taken away, the proportion between the two sexes becomes the same nearly as that of phthisical and of non-hæmoptoic patients. Independent of other reason, this is itself an argument to my mind that this cause (menstrual irregularity) is a vera causa, and moreover we find in this class that the number of profuse to slight discharges is comparatively much less than among phthisical patients (viz. 1 to 3·5, instead of as 1 to 1.45.)

Heart disease is usually admitted to be an occasional cause of hæmoptysis; it is worth while remarking here also that the number of profuse to slight discharges is four times as infrequent as in phthisis.

In the next class—viz. of chronic bronchitis, with or without emphysema, there are also differences which separate it from the class of tubercular hæmoptysis. The age of the patients was greatly above both the general mean and the mean of the phthisical patients; the bleeding was generally slight, being profuse only in one case out of five. This circumstance, and the fact that the average age of the patients is so much greater, leads me to believe that the diagnosis was correct, and that if tubercles existed they were latent even as regards the hæmoptysis.*

The other cases in which the hæmoptysis was profuse, were either examples of pulmonary apoplexy, or there were some composite diseases, as in the case of hooping-cough and pneumonia, the nature of which was evident.

Excluding these cases, and some of the more infrequent cases of hæmoptysis, such as cancer of the lung, aortic aneurism opening into the trachea, certain forms of pneumonic infiltration, &c., none of which diseases occurred among the 1162 patients, or if they occurred were diagnosed, and leaving out of consideration the two cases of vicarious menstruation, it would appear that profuse hæmoptysis is, per se, strong presumptive evidence of early, or, in a slightly increased ratio, of advanced phthisis. Of every five cases of phthisis with hæmoptysis, the hæmoptysis is profuse in rather more than two. When hæmoptysis occurs from menstrual irregularities, from diseased heart, or from chronic bronchitis, it is four times more frequently slight than profuse; and when it is considered how seldom these affections are attended with hæmoptysis, the importance of profuse bleeding as a diagnostic mark even in early phthisis will appear still more striking.*

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* In 19 cases of chronic bronchitis, with or without marked emphysema, Dr. Walshe found streaks of blood in the sputa in 6 cases, and in all thes 6 cases there was ground of suspicion or an absolute certainty, of the existence of tubercle to a *slight* amount. Although *latently* tuberculous, these patients were, as Dr. Walshe remarks, *practically bronchitic*. The distinction appears to me to be an important one.

The diagnostic value of slight hæmoptysis is of course much inferior, as not only does this occur more frequently in disordered menstruation (admitting this as a cause), heart disease, and chronic bronchitis, but also in other affections not touched upon here; as in pertussis in adults, epidemic and even very severe cases of sporadic catarrh. &c. It is also very difficult to be certain that streaks come from the lungs, and not from the fauces, tonsils, or adjoining parts. If, however, it be decided that they do so originate, and if chronic bronchitis, heart disease, menstrual disorders, and the other affections above enumerated, be excluded, the occurrence of slight hæmoptysis, in conjunction with other evidence, may have a positive diagnostic value in early phthisis. In chronic bronchitis I have remarked that the hæmoptysis is generally very slight, and is not repeated so frequently as in tubercles; it is also most common after severe coughing, which is not the case in early phthisis.

Before concluding this paper, I may refer briefly to a similar series of observations which I have made on hæmatemesis.

Of the 1162 patients, 74 suffered, or had suffered, under hæmatemesis—viz. 6·37 per cent. Of these there were 13 men to 61 women, so that (considering the respective ratio of the sexes, among those who applied for advice), hæmatemesis occurred twice as often in women as in men: whether this was connected with the catamenia, I have not determined.

The average age of the men was 40 years, 6 months; that of the women, 38 years, 11 months (say 39), the mean being 39·9; so that this class of patients had a mean excess of 5 years over the general class, and of 7½ years nearly over the consumptive patients.

If the supposition prove correct, that increased frequency of hæmatemesis in women is connected with catamenial disorders, it is an interesting point, that the average of these patients was so much greater than that of the females hæmoptoic from the same cause. Is it possible that in these catamenial cases the pulmonary mucous membrane suffers at an earlier, and the alimentary at a later, period of life? An observation of Dr. Walshe, showing that the frequency of hæmoptysis increases in phthisical women with age, may, however, be opposed to this supposition.

March 10th, 1849.

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* This is quite in accordance with Louis' remark.

SYMPTOMS ARISING FROM NERVOUS IRRITATION.

By Richard Rowland, M.D.

The following cases may perhaps be of some interest to your readers, as examples of mere lesions of innervation, assuming the characters of structural disease:—

The first patient is a girl, aged 19. Until very lately she has lived in the country, and with the exception of an occasional cough, has enjoyed good health; but her cough has for some weeks been more troublesome, and she has become thinner.

When I first saw her, she was suffering from diffused abdominal pain, which was increased by pressure, whether firmly or lightly applied, and the cutaneous surface, especially over the abdomen, was exquisitely tender: the tongue was irregularly coated; the bowels constipated, and the catamenia had not appeared for several weeks.

These symptoms disappeared under simple means, and were followed by others of the same character. She was seized with violent pain in the lower portion of the spine, and pressure over the vertebral column of that part excited pain of the abdomen, especially in the left pubic region. By leeching the spine, and exhibiting purgatives, these symptoms likewise went away.

So far, the case was clearly one of aggravated hysteria, and of no interest except in helping to explain the nature of the subsequent symptoms, which, although still, I think, purely nervous, were of a severer and more rare description.

The pain next attacked the left lower extremity, and involved the whole limb from hip to foot. She could not suffer the leg to be moved or even touched, however gently, in consequence of the torture it occasioned. She complained much of thrilling sensations in the limb, and said that she had lost voluntary power in it. Although the pain was everywhere severe in the affected part, it was more intense in the ankle, the calf, the under part of the thigh, and the groin. On the following day the limb became covered with a puffy swelling, not in the usual manner of œdema of the extremities; at the ankle first, and then gradually extending upwards, but uniformly, and at the same time, over the whole leg. This swelling increased rapidly; the limb looked nearly double the size of the other; the swelling had much the appearance of phlegmasia dolens, and I began to apprehend the existence of phlebitis.

The pulse, however, though frequent, was soft and compressible: the swollen limb was not hotter than the rest of the body. No sign of venous obstruction or venous plethora could be perceived. There was some amount of pain, on pressure, in the left pubic region, but it was by no means permanent; and the sound on percussion there and over every part of the abdomen, was quite healthy. The tongue was still much coated; the appetite variable; the stools dark and very offensive.

The treatment was limited to opiates, freely given, to assuage the suffering, and half an ounce of castor oil, with one drop of the croton oil, in the mornings. Under this plan the pain and the swelling gradually disappeared, and every trace of disease in the affected limb vanished.

If the pain of the leg in this patient had been unattended by swelling, no hesitation could have arisen in assigning it to hysteria. It is the unusual amount of œdema that gives to this case its claims to notice. Serous effusion is, indeed, common enough in a pained organ, quite independent of inflammation, as is often seen in common face-ache, and in nervous pains generally. But I am not acquainted with another instance where œdema from this cause occupied so large an extent of surface, or was so considerable in quantity.

That the symptoms originated in nervous excitability, and not from inflammation, is shown by the whole history of the case. The acute pain in the limb followed in the train of similar attacks of a transient nature in other parts. For several hours the pain was the only symptom, and the swelling, when it appeared, was spread uniformly over the limb. There was no sign of phlebitis or of pressure on a large vein, and the pain and swelling subsided as rapidly as they had come on, leaving no appearance of disease in the limb.

The next case to which I take the liberty of referring originated in a very different manner, and was marked by very opposite symptoms; but it is, notwithstanding, an example (as I believe) of nervous excitement or irritation, giving rise to phenomena that closely imitate those attendant on structural disease.

A woman, aged 22, fell on her back in going down stairs, and received several slight contusions on the dorsal region of the spine. Three or four days afterwards, when the spinal tenderness occasioned by the accident had nearly subsided, she felt acute pain in the epigastrium, and immediately a large quantity of bilious matter, and the ingesta, were vomited. On the following day a yellow tinge was observed on the skin, and this went on increasing until she was deeply jaundiced. When I first saw her, which was about a fortnight after the accident, the skin and conjunctivæ had a deep yellow colour; the urine was loaded with bile, but the stools retained their natural colour. There was obtuse pain, and a sense of weight in the right hypochondrium; but the liver did not extend beyond its natural boundaries: the pulse was of moderate strength and frequency, and the surface cool.

Before the accident her health was good: she had neither sickness nor pain; the bowels were quite regular. I ordered her a blue pill at night, and a mixture of cascarilla and the sulphate of magnesia. In a few days the jaundice began to subside rapidly.

That the jaundice in this case was in some way connected with the concussion of the spine, admits of no doubt, and it is highly probable that the effect was produced through the instrumentality of the hepatic nerves. An interval of some days took place between the accident and the jaundice; and this is in perfect accordance with actions of this nature, nervous irritation showing itself many days or weeks after the occurrence of its exciting cause. There might possibly have been in the present instance a certain amount of congestion of the liver, but it could not have been considerable, for the organ did not extend beyond its normal position in the hypochondrium.

The biliary passages must have been pervious, for the stools retained their colour, and the jaundice was evidently dependent on an excess of the biliary secretion, and not on its retention.

I have troubled you with these cases, not merely on the score of their novelty, but because they appear in some degree illustrative of a morbid process still in much obscurity, but regarding which it is of the highest practical importance to obtain correct notions.

7th March, 1849.

PHYSIOLOGY.

ON THE RELATIVE PROPORTIONS OF CARBONIC ACID GAS EXHALED BY DIFFERENT ANIMALS IN THE ACT OF RESPIRATION.

From numerous experiments on different animals, M. Lassaigne draws the following conclusions:—

In the same interval of time each animal exhales a different proportion of carbonic acid gas, dependent on peculiarity of constitution and activity of the respiratory functions.

Volume of carbonic acid gas exhaled during one hour at 32° Fah. by different animals:—

	Litres.		Cubic Inches.
Bull.......	271	or	16531
Ram (8 months)	55		3355
Horse (8 years).	21		1281
Kid (5 months).	11		6 1
Hound.....	18		1098

Calculating the quantity of carbon consumed hourly, and in twenty-four hours, the following results are afforded:—

	In an hour.	In 24 hours.
Bull...	2,254 gr.	52.298 gr.
Ram...	447	11,039
Goat...	169	4.292
Kid...	92	2,314
Dog...	138	3,658

—*Journal de Chimie Médicale*, Janvier 1849.

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*** We do not think that much confidence can be placed in results which lead to the inference that a bull exhales thirteen times as much carbonic acid as a horse during the same period of time.

MEDICAL GAZETTE.

FRIDAY, MARCH 30, 1849.

Testamentary lectureships for scientific purposes generally share the fate of testamentary prizes. They give rise to a gross system of hereditary jobbing, and the wishes of the founder are entirely defeated. Science is not benefited, the public are are not instructed, and the bequest becomes in time a snug sinecur in the hands of the trustees and their descendants. That munificent citizen of the days of the Tudors—Sir Thomas Gresham, while he conferred a lasting benefit on English commerce by the foundation of the Royal Exchange, had at the same time a desire to diffuse scientific knowledge among his countrymen. He endowed a College for the profession of the seven liberal sciences, and made a testamentary disposition of his house in Bishopsgate Street for this purpose. He died in 1579, and by his will bequeathed one moiety of the Royal Exchange to the Corporation of London, and the other to the Mercers' Company, for the salaries of seven lecturers in divinity, law, *physic*, astronomy, geometry, music, and rhetoric, at fifty pounds each per annum. The value of each lectureship is now doubled. We need hardly say that the Gresham lectures have become a bye-word. Each professor receives his appointment through corporation patronage, and he is supposed to deliver annually a course of six lectures somewhere, for the edification and instruction of the public!

The lectures, we are told, are hurried through in Latin and English, and no one is benefited except the professor, who takes the salary upon this sort of pepper-corn tenure. We believe that an attempt has been recently made to improve Music, but the lectures on the liberal sciences of Physic and Law confer no more benefit on the public than they did on their first delivery two hundred and seventy years ago. This is not as it should be: the public do not derive that advantage from this munificent foundation which they have a right to expect.[*] We have no hesitation in saying that the Gresham lectureship in physic might be turned to the most useful purposes, by instructing the public on hygienic and sanitary subjects—by displaying the evils of quackery, self medication, and other matters of a popular kind. But they who confer these appointments have apparently no desire to improve the public mind: their object is seemingly to provide for some gentleman, who happens to have sufficient corporation influence, a comfortable sinecure.

An endowment of a more recent kind, also intended for the benefit of the public and the improvement of science, appears likely to share the fate of the Gresham lectureships—we allude to the foundation of a lectureship on Geology in the British Museum by Dr. Swiney, the recent award of whose quinquennial prize has already attracted some notice in the profession. In a codicil to his will[†] Dr. Swiney says—

"I leave five thousand stock, in the Three per Cent. Consolidated Fund, in trust to the Trustees of the British Museum, for establishing a lectureship on geology, the lecturer to be an M.D. of Edinburgh."

We have already stated that this lectureship is now held by Dr. W. B. Carpenter, who is well known for his researches as a physiologist. This gentleman may, for anything we know to the contrary, be as competent to teach geology, as he is, physiology. The remarks which we are about to make do not refer to his qualifications for the office, but to the circumstances under which he has been appointed by the trustees. As the appointment is to be made every four years, it is desirable that those graduates of Edinburgh who have taken up the study of geology should know how and when they may become competitors, and be made acquainted with the conditions under which they will be permitted to hold the Swiney professorship.

The salary attached to the office, is, according to the terms of the will, £150 per annum.[*] The first fact which we have to announce is, that Dr. Swiney died in January 1844, and no lecturer on geology was appointed by the trustees until May 1847. The cause of this delay in fulfilling the wishes of the testator is not known. At the time of the appointment, there would have been an accumulation of the funds for the lecturership of *five hundred and fifty-five pounds!*[*] What has become of this sum is not apparent: it has not been conferred as a bonus on the professor, nor has it been reinvested for increasing his yearly emoluments; for, as we shall presently state, these have been actually diminished. It may occur to some of our readers, that the money has been spent in preparing a proper apartment in the British Museum for the delivery of the lectures; but this explanation cannot be received, because it is expressly stipulated that the lectures shall not be delivered within the walls of the Institution. It is altogether a mysterious and inexplicable matter. We can only presume that some one must have benefited by the yearly dividends intended for the Swiney lecturer.

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[*] A public writer in 1825, in referring to the Gresham endowment, states that, "in order to promote general instruction, the lectures were to be read *daily*, both in Latin and English. They have, however, long been delivered in what is called *term-time*, in a room over the S.E. corner of the Royal Exchange; but their terms like their lectures are peculiar to themselves. The terms are five in the year, and are announced by advertisements in the daily journals. From a variety of causes, the studied brevity observed in the lectures, &c., the professors' places are little better than sinecures, and the public unfortunately derive scarcely any advantage from the useful and liberal endowment of Sir Thomas Gresham. The yearly salary of each professor is £100."

[†] See page 306.

[*] We here think it advisable to give a list of the Trustees. It is probable that one half of the number never heard of Dr. Swiney or of the professorship:—The Duke of Cambridge; the Archbishop of Canterbury; the Marquis of Northampton; the Marquis of Lansdowne; the Bishop of London; the Earl of Derby; the Earl of Aberdeen; the Earl Cawdor; Dean of Westminster; the Earl of Cadogan; the Lord Chancellor; the Lord Ashburton; Lord Langdale; Lord Stanley; Duke of Hamilton; Duke of Rutland; Duke of Sutherland; Sir Robert Peel, Bart.; the Earl Fortescue; Right Hon. T. B Macaulay; Right Hon. The Speaker; President of the College of Physicians; President of the Royal Academy; the Earl Spencer, Lord Chamberlain; Sir Robert Harry Inglis, Bart.; Sir J. F. W. Herschel, Bart.; the Solicitor-General; G. B. Tyndale, Esq.; H. Hallam, Esq.; W. R. Hamilton, Esq.; Rev. F. Annesley; Chas. Townely, Esq.; Lord Chief Justice of the Queen's Bench; Lord John Russell; Lord Chief Justice of Common Pleas; Lord Privy Seal; First Lord of the Admiralty; Sir Geo. Grey, Bart.; Earl Grey; Viscount Palmerston; Lord H. W. Bentinck; Chancellor of the Exchequer; the Attorney-General; Lord Mahon.

It appears by the subjoined notice that the first announcement respecting this appointment was made in April, 1846.

Dr. George Swiney's Lecturer on Geology.

The Trustees of the British Museum intend to appoint a lecturer on this foundation in May 1847.

The Lecturer must be a Doctor of Medicine, of the University of Edinburgh, and will receive a stipend of £120 a-year. The office will be tenable for five years, at the expiration of which period, the same person will be incapable of re-election for that term.

The number of lectures are to be not less than twelve in each year, nor more than three in the same week. They are to be delivered at such public place in London as the trustees shall appoint; and are to be open without fee to certain classes of persons to be hereafter named.

The lecturer will be required, at the close of the first year, and previously to receiving his stipend, to deposit a copy of his lectures with the Secretary of the Museum.

J. FORSHALL,
Secretary.

British Museum,
April 1846.

We may just remark, that the Rev. J. Forshall, who signs this document as Secretary, and who therefore holds an appointment in the British Museum under the Trustees, is also an executor under the will of the late Dr. Swiney.

The following resolutions respecting the Geological lectureship were subsequently issued:—

SWINEY LECTURESHIP.

Resolutions of the Trustees of the British Museum, with regard to the lectureship on the foundation of Dr. George Swiney.

I. That the gentleman who may be chosen to be the Swiney lecturer, do find for the delivery of his lectures a place to be approved by the Trustees of the British Museum, and that he bear all expenses attending the preparation and delivery of such lectures, and also of the publication thereof, if he should deem it expedient to publish the same.

II. That the following classes of persons be admitted to the Swiney lectures free of charge—namely, 1. The Trustees and Resident Officers of the British Museum, and also the Assistants in the Department of Natural History. 2. All graduates of the University of Edinburgh. 3. All members of the College of Physicians.

III. That ten tickets for each lecture be further placed at the disposal of the trustees.

IV. That the charges to be made to other persons be approved by the trustees.

V. That the first year's salary of the Swiney lecturer become due on the 10th day of July, 1848; that the office become vacant on the 8th May, 1852; and that the last year's salary be payable on the 10th July, 1852.

That these resolutions were sanctioned by all or even a majority of the noblemen and gentlemen who are trustees of the British Museum, and whose names we have elsewhere published, we do not believe. We suspect that, as at the Society of Arts, one or two busy and enterprising men have taken the lead in the matter, and have issued the resolutions as if approved by the whole of the Trustees. We do not dispute the legality of the proceeding, and the observance of the letter of the law is all that can be expected from public bodies under these circumstances.

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[*] It will be seen hereafter that the payment of the first year's salary was not made until July 1848, thus producing an accumulation of dividends for four years and a half!

It will be perceived that the terms of the codicil admit of a wide construction; and it appears that in these resolutions, full advantage has been taken of this want of precision. The only point in which the wishes of the testator appear to be strictly fulfilled, is in the appointment of a Doctor of Medicine of the University of Edinburgh.

We do not find, from the terms of the codicil, that the acting trustees are justified in deducting *thirty pounds* per annum from the dividends appointed for the lectureship, even although one of the executors of the will signed this document as their secretary. On what ground, and for what purpose, is this annual deduction of *one-fifth* of the lecturer's salary made? Does it go to the party who was the fortunate recipient of the surplus dividends before the resolutions were issued? Is it expended in a prize silver goblet? Or is it left with the Commissioners, for the patriotic purpose of aiding in the liquidation of the National Debt? It will be seen from the first resolution that the acting Trustees throw the whole expense of the lectures on the lecturer: he is compelled to provide a place for their delivery, to pay all the expenses of procuring specimens, illustrations, advertising, and attendance, &c. On what pretence, then, is this money held back? Is it possible that Sir ROBERT PEEL, Sir R. H. INGLIS, and other gentlemen whose names appear among the trustees, and who are reputed friends to science, can be aware of this fact? It is clear that, unless the lecturer makes an arrangement with some private institution, which, as we shall presently see, tends to neutralize entirely the objects which Dr. Swiney had in view, the sum allotted by the trustees would not pay the rent and expenses incurred in the delivery of the lectures!

It is, we think, obvious that by this codicil to his will, Dr. Swiney had a desire to turn the splendid geological specimens in our great National Museum to some useful purpose; and that his intention was that the trustees should appoint as a lecturer, one who was qualified to explain them, and give a series of popular discourses to all who might have the opportunity or inclination to attend. Lectures of this kind were given many years since in the Museum of Natural History in Paris, by Cuvier, Brongniart, Cordier, Dumeril, and other scientific men; and more profitable information was thus conveyed in an hour, than could have been possibly obtained in any other way.*

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* The British Museum will not be complete as a National Institution, until distinct Lectureships are founded on the various branches of Science and Natural History, for which its stores of specimens render it so well fitted as a place of demonstration. At present the public have only the privilege of staring at the specimens, and endeavouring to make a conjecture at the object of the Trustees in collecting old bones and minerals in glass cases. Of the great facts which these splendid specimens are intended to elucidate, they are kept in complete ignorance. In this respect the French are a century before us. One of the rooms in their National Museum was set apart for the hour's demonstration. No ingress was permitted after the commencement of the lecture. All the specimens in the apartment were made available for illustration, and the whole cost to France, besides the salary of the Professor, consisted in the purchase of about 150 or 200 seats, and the wages of a few additional assistants! The new Mammoth room at the British Museum, is admirably adapted for the delivery of lectures. Its use for this purpose would lead to its being shut off for an hour three times a week, whereby fifty or a hundred persons would be prevented from having access to it for that short period, while more than that number would benefit by its closure, in attendance on lectures delivered by a competent person. The officers of the British Museum are doubtless most unwilling to have any additional duties

We now come to another part of the case. Dr. Swiney, like Sir Thomas Gresham, obviously intended the lectures for the benefit of the public; but the trustees have completely subverted this by their second resolution, which is to the effect that a charge, to be approved by them, shall be levied on all persons who attend the Swiney lectures, excepting 1. themselves, their friends, and the resident officers of the Museum; 2. graduates of Edinburgh; and 3. members of the College of Physicians.

The present Swineyan Professor has been compelled to make arrangements with the Managers of the Royal Institution, for the delivery, in their theatre, of a course of twelve lectures, the minimum number fixed by the Trustees. Although we believe he would, if it were in his power, readily admit without charge all decent persons who made application to him, yet of course the rules of the Institution must prevail; and according to these, every individual who attends the Swiney lectures on geology, must pay one guinea!

Such is the account of the Swiney lectureship on geology. Badly as the Gresham professorships have been managed, the trustees have not gone quite so far as those of the British Museum. We believe they have paid the Professors fairly and fully,—they have not deducted one-fifth of their salaries for unknown purposes. They have provided a room for the delivery of the lectures, and have paid the expenses incurred.* So that *magna componere parvis*, in the Gresham case the public have free access to lectures which are not worth hearing, while in the Swiney case they are denied access except by the payment of a fee. At the same time, by refusing to permit the delivery of the lectures in the Museum, the Trustees are depriving the lecturer of the power of making them practically useful; and by levying a fee upon the public, they are defeating the objects of the testator.

We trust that some notice may be taken of this matter in Parliament, when the next annual grant is made to the British Museum.†

If the trustees accept a legacy, it is their duty to see that the objects of the testator are fully carried out. The accumulated dividends, appertaining to the professorship, should be restored or accounted for,—the professor should have his salary paid to him without deduction,—and a room should be provided in the Museum for the delivery of a course of twenty or thirty lectures annually. The professor should be permitted to use for illustration the specimens afforded by the Museum, making himself responsible for their being replaced in an undamaged state. He should be put to no expense in the delivery of these lectures, and the public should have free access to the course, on the terms on which they are now admitted to the galleries of the Museum.

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imposed upon them; but in this Swiney case, where a private individual bequeaths a salary for a professor, as much is deducted from the endowment as would pay the expenses of additional assistance! The glass cases are kept locked, and the lecturer is directed to find a place for his lectures, and provide himself with specimens and illustrations in the best way he can. So much for the encouragement of science, and the diffusion of information among the people!

* Gresham College formerly stood on the site of the present Excise Office. When the College was pulled down, in 1763, the Trustees provided an apartment in the Royal Exchange for the use of the Professors.

† According to a return just laid before Parliament, the grant required for the ensuing year is £42,915. This, it is to be remembered, will come from the public purse. The return also shows, that in 1848 the Museum received £53,999, and expended of that sum £49,845; of which sum no less than £31,041 went in salaries to officers! The number of visitors admitted to the Museum in 1848 amounted to 897,985. The library of the Museum has of late years been made much more accessible to the public; and there is no reason why the cabinets of Natural History should not be made more profitable and instructive than they now are.

Reviews.

Sequel to Outlines of Medical Proof. By THOMAS MAYO, M.D. F.R.S. Pamphlet, 8vo. pp. 41. London: Longmans. 1849.

WHILE some members of the profession are engaged in recording their experience without rule or method, Dr. Mayo is earnestly endeavouring to establish that the science cannot be benefited except by accuracy of reasoning from cause to effect. The substance of the pamphlet before us has already appeared in various detached papers in the columns of this journal, and, therefore, we need now only briefly refer to it. In what does medical proof consist? If we were to attempt to answer this question by reference to medical writings, we should find that authors have too often mistaken probability for proof, and hypothesis for fact. Hence arise the discordant views of practitioners on the etiology and pathology of febrile and other diseases. It is Dr. Mayo's object to rescue medicine from the opprobrium which is thus brought on it by the accumulation of false facts and false reasoning. His essays on medical proof are well adapted for this purpose, since they serve to indicate to the practitioner in what way he can render his experience really profitable to himself and others. Dr. Mayo considers that—

> "Our medical literature requires, indeed, a larger stock of single cases or monographs, not only in this empirical point of view, but as embodying the varieties of nosological generalisations, so as to afford the modifying influences of constitution, temperament, &c. by observance of which our treatment is individualized, and the idiosyncrasies of the patient receive attention. How unimpressive, and therefore uninstructive, are the "varieties" of Sauvages, stated, as they are, in the abstract! and how immediately would they be vitalized if his diagrams were changed into portraits! Meanwhile we accumulate in our reports exceptions, and not examples, as if a perfect acquaintance with the latter ought not to precede an enumeration of the former." (p. 7.)

The following remarks on the construction of hypotheses are just:—

> "If comprehensiveness of views and careful observation are requisite to the framing a sound hypothesis, judgment and discretion are often requisite in a high degree for its just application. Thus an hypothesis may be framed to meet circumstances, under which its truth has to be assumed, not as having been proved, but as having become more probable than the contrary supposition, yet under which *some* hypothesis had become very desirable. In short, circumstances may have arrived in which the risk of confusion without an hypothesis has become a greater evil than the risk of error with one. But the hypothesis selected on these grounds may involve much practical mischief if taken unreservedly. Such would be the working—such, indeed, I may say, has been the working—of the hypotheses framed to meet questions of epidemic or contagious fever. That in a particular place, at a particular time, fevers spread through a population, circumscribed by local limits, which they do not pass by conveyance through infected persons, is apparently most true. That there are other fevers, and generally other forms of pyrexia, which recognise no such circumscription, and which occur so frequently on an infected person being brought near some one else, who thus appears to receive the fever from him, as to imply transmission, is equally true. And if we let these two considerations serve as broad statements of a general probability, we use them discreetly according to the present state of our knowledge." (p. 19-20.)

We recommend this pamphlet to those who pursue medicine as a science.

Continental Travel; with an Appendix on the Influence of Climate, the Remedial Advantages of Travelling, &c. By EDWIN LEE. 8vo. pp. 353. London: Adams. 1848.

VARIOUS circumstances have prevented us from giving an earlier notice of this work. The title indicates the object of the author in its publication, and we may remark that he has contrived to make it an amusing companion to the traveller, as well as a guide to the invalid. The strictly medical portion of the work is confined to the appendix. Having gone over much of the same ground as the author, we can state that whilst his descriptions of the various places which he visited are sketchy, they are accurate, and are well fitted to prepare the traveller for that which is likely to come before him. He may also, by the aid of Mr. Lee's descriptions, select a continental residence, either for pleasure or for the restoration of health. In short, we consider this book, without being an itinerary, to have all the merits of an excellent travelling companion.

There are some illustrations on stone, apparently copied from the conventional pocket-book drawings which are to be found in most local guide-books. They indicate the early struggles of art. The frontispiece, representing Rome from the Tiber, is a perfect caricature: the perspective, linear and aerial, is about on a par with the mediæval illustrations occasionally met with in the pages of our witty contemporary *Punch*. It is only fair to say, however, that they are not from the lithographic pen of the author. In another edition we would decidedly advise either the substitution of better drawings or their total suppression.

London University Calendar. 1849.
Second Edition. 8vo. pp. 319.

This little volume is especially intended for the use of those gentlemen who are already members of the University of London, or who propose hereafter to offer themselves as candidates for its degrees in Arts, Medicine, or Law. The calendar contains in red letter, the various examination days throughout the year: this is followed by the charter, with the regulations regarding the examinations—the schools recognised by the University—lists of graduates, and the various examination papers for the year 1848. It would be highly convenient to the profession, if a volume like this were issued yearly by the other examining bodies. Every member of a college would be glad to possess an authentic copy of the laws and regulations of his college, as well as a list of its members, with the date of their admission. The greater part of the expense would be repaid by the sale of such a work.

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 22d March, 1849.—George Jas. Thurston, 9, Southampton Street, Bloomsbury—William Carrol Satchell, Newport, Isle of Wight—Henry Geary, Atterton, Leicestershire.

Proceedings of Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Tuesday, March 13, 1849.

DR. ADDISON, PRESIDENT.

The library was unusually full this evening, to receive the new President, who, on taking the chair, addressed a few words to the fellows, expressive of his thanks for the choice they had made, and of his desire to maintain the respectability, honour, and harmony of the Society.

Dr. Moore, previous to the commencement of the usual business of the meeting, rose to address some remarks to the Society on the occurrence which took place at the late anniversary, and after alluding to the observations made by Dr. Webster, was about to enter more fully into the subject, when the President requested as a "personal favour," that Dr. Moore would reserve his observations until the forthcoming general meeting; Dr. Moore therefore would merely enter his protest against the unconstitutional proceeding of a president stopping a discussion which had reference to the vital interests of the Society.

Mr. Travers rose to promote a vote of thanks to the late President. He (Mr. Travers) was now the senior fellow of the Society, and the only one living now connected with it who had joined it at its formation in 1801. In a very eloquent speech, he traced the progress of the Society from its first foundation by Dr. Marcet, of Guy's, and Dr. Yelloly, of the London Hospital, when they used to meet in Verulam-buildings, the principal fellows at that time being Dr. Saunders, Dr. Baillie, Sir Gilbert Blane, Mr. Cline, Mr. A. Cooper, and Sir H. Halford. He traced the early struggles of the Society, and the energy with which the twenty-five fellows pursued its interest. After descanting on the present prosperous condition of the Society, the value of its *Transactions*, &c., he moved the resolution mentioned above. The resolution was seconded and carried.

A case of Apoplexy of the cerebellum. By R. Dunn, Esq.

The patient was a man, 52 years of age, whose sight had for some years been much impaired, from an amaurotic affection. The author was first called to attend him in June, 1843, when he was suffering from cephalœma and febrile disturbance. This attack left his sight more impaired. About two years ago, he became unfortunate in business, and from that time his mind was weak and excitable. On the last day of April, 1848, he was seized during the night with sickness and faintness, and, getting out of bed, fell, as it was thought, in a fainting fit. The author found him in a low, exhausted state, and cold, but complaining of pain, heat, and uneasiness in the back part of his head. The latter symptoms continued for some days. There was no paralysis, but his mind was weaker, and more confused than before, and his emotional excitability increased. Early in May, his wife mentioned that he had become subject to a constant desire for sexual intercourse; that his conduct in this respect was very different from what it had been before his late attack. By the advice of the author, he left home for about three weeks, without his wife. On his return, the desire of sexual intercourse was abated, and from this time was gradually lost. There was now observed an unsteadiness of gait, which increased, and for some time before his death was attended by weakness and stiffness of the left leg and foot. On the 6th of September he was seized with an apoplectic attack, and died in less than four hours. After death the vessels on the surface of the brain were found turgid. The convolutions of the brain were shrunken, deficient in firmness, and of a dingy-yellow colour. The optic nerves, shrunken and of a dingy colour, were, together with the substance of the brain around them, in the cerebral part of their course, softened. The whole region of the meso-cephale had an unhealthy aspect. The interior of the right hemisphere of the cerebellum was a softened, pulpy mass, in the midst of which was an apoplectic clot, of the size of a pullet's egg. The softening extended inwardly, beyond the centre of the median lobe, implicating the fibrous strands of the middle and inferior planes; and outwardly, near to the surface of the hemisphere. The whole arterial system of the brain presented the diseased condition which results from cartilaginous and osseous deposit between the coats of the vessels. This state was remarkably apparent in the vertebral arteries, especially in the cerebellar branch, from which the hæmorrhage appeared to have taken place. The author regards the state of the vessels as the primary cause of disease. He believes that the first attack in April was of the same nature as the fatal seizure. Around the first apoplectic clot, inflammation, he thinks, was set up in the cerebellum, and this terminated in disorganization. To the inflammatory state of the cerebellum he refers the exaltation of the sexual propensity; to the stage of disorganization, the depression of that feeling, and the disturbance of the powers of locomotion—namely, the tottering gait, from defective power of co-ordination, ending in a weak and stiffened condition of the left leg. He refers to another similar case which had come under his observation. He points out that the median lobe of the cerebellum is a primitive and independent part, and argues that it is the sensory ganglion of the sexual instinct, and belongs to the same category with the optic, olfactory, and auditory ganglia; while he thinks the two cases he has noticed afford pathological proof that another office of the cerebellum is that of a regulator and co-ordinator of the muscular actions, especially of those subservient to locomotion, and to the maintenance of the equilibrium of the body.

Dr. **MARSHALL HALL** rose and said—There cannot be two opinions respecting the value and interest of the case which has been read to the Society. The physiological deductions of the author constitute a different question. I quite agree with Professor Owen that there is no sufficient reason for supposing that the cerebellum is the seat of the sexual passion. The exasperation of this passion in the case before us is little to the purpose. There was vomiting and faintness. Is the cerebellum the seat of the functions to which these affections respectively belong? The median lobe of the cerebellum cannot be affected without the contiguous medulla oblongata being affected too, by irritation or pressure. Which of these, then, was the organic seat of the sexual passion roused to excess in the case before us? By the experiments of Segalas, we learn positively that the medulla oblongata is *a* seat of sexual excitement, for irritation of this part of the nervous centres led to erection and emission. It is a remarkable fact, that disease of the lateral lobe of the cerebellum leads to no sexual phenomenon; it is only when the median lobe is affected that such phenomena take place, and in this case the excitement may be either in that lobe or in the subjacent medulla, as I have already said. In one case of abscess in a lateral lobe of the cerebellum there was no sexual symptom; but the intra-cranial facial nerve was compressed, and facial paralysis was the consequence. Even in the human subject, sexual phenomena have been observed in cases of injury to the neck, consequently below the seat of the cerebellum. The phenomena of strangulation, in its fatal, and in its slighter degree, afford evidence of the same kind: in the former case there are erection and emission; the latter has been used by the profligate sensualist to induce sexual excitement. The question is a complicated one; the effect of sexual passion: that of seminal excitement and that of the excitement of the more immediate incident nerves, must be considered. The first, and certain pleasurable sensations, and pain, have probably, as the last has certainly, their seat in the medulla oblongata. As to the effect of lesion of a lateral lobe of the cerebellum on the motor powers, it is similar to that of lesion of the cerebrum. Altogether the subject is too extensive for a cursory discussion.

Professor **Owen** said, that as the author of this highly interesting communication had made reference to comparative anatomy as supporting his deductions from the morbid appearances of the cerebellum, that it was the nervous centre or seat of the sexual instinct, he would briefly state how far the known facts in comparative anatomy bore upon this question. Perhaps the best tests of the ratio of the cerebellum to the development of the sexual organs and instincts were afforded by the class of fishes; and he referred to what he had stated on this point in his published lectures on the nervous system, where its development was shown to be in the ratio of the power and variety of the muscular efforts with the concomitant respiratory activity, but by no means to correspond with the generative organs and instincts. The express nervous centres for the special senses of sight, smell, &c., bore a ratio of decrease with the degradation of the organs, but the supposed cerebellar centre of the sexual sense did not show such a decrease; and, on the other hand, the cerebellum had wholly disappeared, with every conceivable homologous nervous centre, in the entozoa, where the testes and ovaria were so enormous. Professor Owen regarded the sexual sense, as it had been termed, to be an exaltation of ordinary sensibility, and to require a special centre no more than ordinary titillation of nervous extremities in other parts of the body; in proportion to the general exaltation of the sensory system would doubtless be the enjoyment of the sexual sense. With regard to the inference drawn from the signs of inflammation and disorganization of the cerebellum in their relation as the cause of the excessive proneness to venery, he thought much caution and reserve were called for, before assuming such relation. Inflammation was commonly accompanied with a diminution or suppression of the natural actions of the part. A very erroneous idea of the function of the testis itself might be formed from considering exclusively the phenomena attending the inflammation of that gland. The sexual phenomena to which the author's attention had been specially directed, might be the result of the morbid state of the cerebellum reacting on some other part of the nervous centres more directly connected with the source of the sensations of the sexual system. Professor Owen concluded by expressing his sense of the value and importance of such records of morbid phenomena, and of the interest with which he had listened to the excellent account given by the author.

Dr. **Carpenter** expressed a strong sense of the physiological importance of such communications as that of Mr. Dunn; in which accurate and prolonged observation of symptoms during life was combined with pathological information furnished by post-mortem examination. He remarked, moreover, that observation of symptoms during life, even where the recovery of the patient precluded any exact knowledge of the nature of the affection, might often be of great value to the physiologist; as it had been in one of the most instructive cases he had ever read, formerly communicated to the Society by Mr. Dunn, but not, he was sorry to say, recorded in its *Transactions*.[*] Dr. Carpenter then addressed himself to some of the remarks made by Mr. Owen, who had not, as it seemed to him, correctly apprehended Mr. Dunn's views. The question of the connexion of the cerebellum, or of any portion of it, with the sexual instinct, could not be settled, he maintained, by any reference to cases in which, as in plants, and in many of the lower tribes of animals, the reproductive function is chiefly or entirely organic. It is a fact, about which there can be no mistake, that man and the higher animals have sexual sensations, which stimulate to the performance of the reproductive movements; either automatically, in which case the movements are purely instinctive or consensual; or voluntarily, by giving rise to ideas and desires, which constitute a propensity that operates through the reason. Now, every sensation must, in his apprehension, have an encephalic centre, and he considered that the sexual sensations must have their place in that chain of sensory ganglia which lies at the foundation of the whole encephalic apparatus. It might be said, that they are only a modification of the ordinary sense of touch, and that they need not have a ganglionic centre distinct from that of the latter; but he thought that a careful attention to our own consciousness would indicate the contrary. Although he had always been strongly opposed to the doctrine, that the cerebellum, as a whole, is the organ of the sexual instinct or propensity, yet he thought that much evidence had been adduced, tending to show the presence of a ganglionic centre for the sexual sensations, either in the central lobe of the cerebellum, or in the upper part of the medulla oblongata; and the limits of these parts were not so accurately defined as to make the allocation of it in one or the other a matter of much consequence. He referred to a case mentioned to him some years ago, by Mr. Turley, of Worcester, in which a man advanced in life became the subject of satyriasis to such a degree that he would even practice masturbation in the presence of females; and after death a tumor was found, of the size of a split pea, on the pons Varolii. He considered that the case recorded by Mr. Dunn added weight to this view, and he fully concurred with that gentleman in thinking it probable that the original lesion might have been of a kind to excite the sensation by irritation of its ganglionic centre,—just as we see extreme susceptibility to light and sound in the incipient stage of phrenitis,—although the further progress of the malady produced such an injury in the part as to impair its functional activity. He could not, therefore, admit the validity of Professor Owen's argument, that the presence of the results of inflammation negatived the idea of the connexion of the lesion, in its earlier stage, with the affection of the sexual feelings described by Mr. Dunn.

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[*] Dr. Carpenter here alludes to Mr. Dunn's interesting and valuable case, "Of suspension of the Mental Faculties, of the Powers of Speech, and Special Senses, with the exception of Sight and Touch," occurring in a young woman, and continuing for many months, in consequence of her having accidentally fallen into a river, and been nearly drowned; but the paper was not read before the Royal Medical and Chirurgical Society. We understand it was written by Mr. Dunn with that intention, and sent to the Society, but rejected by the Council. It appeared afterwards in the pages of a contemporary journal, and arrested the attention of some of the most distinguished physiologists of the day.

Mr. W. F. **Barlow** addressed a word to the Society with deference, seeing the eminent speakers who had occupied it. He thought the case of Mr. Dunn very doubtful as to the light it threw on the much disputed and most unsettled point of the functions of the cerebellum, but very valuable as a contribution to the history of apoplexy, from the care with which the symptoms were observed, the length of time occupied by their observation, and the clear account given of the post-mortem appearances. The author had referred to the excitement and pain which had preceded the apoplectic effusion. This practical point had been much dwelt upon by Dr. Cheyne and others. He (Mr Barlow) had lately examined the body of a man who died from effusion of blood upon the medulla oblongata. He had been long subject to depression of spirits, had suffered from occasional pain in the head, and from several attacks of epilepsy. One night at bed-time, he complained of violent head-ache, and the morning afterwards was seized with a fit of epilepsy, in which he died. The breathing was peculiarly stertorous, and indicative of danger. On examination after death, a coagulum of blood, of the size of a sixpence, was found to have pressed upon the medulla oblongata. As to the cerebellum being the organ of sexual passion, Mr. Barlow would take leave to remind the Society of the remarkable case detailed by Cruveilhier, of a female who was sexually excited to a high degree, but was found after death to be deficient in that part. That it was possible for coitus to be effected without the aid of either brain or cerebellum, would appear from what happened in paraplegia. As to the lower animals, he might mention, in reference to the maintaining of the act, that last spring he took a male frog when in coïtu, and suddenly deprived it of its head. The animal maintained its attitude, and the act, so far as the muscular action went, seemed to progress as well, or nearly so, without the brain as previous to its removal.

Mr. **Streeter** could but regret that no avowed phrenologist of greater weight than himself had risen to reply to the objections brought from comparative anatomy and experimental physiology against Gall's doctrine of the cerebellum being the seat of the sexual feeling. Consistency, as well as inclination, required that he should do his best to answer them. The cerebellum had been the favourite battle-field upon which comparative anatomists and experimental physiologists had sought to overthrow the doctrines of Gall and Spurzheim since Gall's views were first made known in anything like an authentic shape, to Cuvier, forty-seven years ago. This was done in a letter from C. Villers to Cuvier, which was printed at Metz in 1802; and in the belief that it was the only copy in this country, he begged to present his own to the library of the Society. He had listened with pleasure and attention to the remarks of Professor Owen, because he well knew the profoundness of his inquiries, and the rare and extensive opportunities which fell to his lot; but he must say, that in his judgment the Professor had confounded things essentially different in their nature. He had not, in his remarks on fishes, distinguished between the psychical feeling which leads to, and accompanies, the copulative act, the organs by which that act is accomplished, and the results which take place in the parturient or breeding organs as its consequence. He had sought for a relation of size between the cerebellum and the copulative and breeding organs, which does not exist in nature, and assuming this relation of size to be a phrenological datum, he builds his adverse reasoning upon it. To show that this relation of size, upon which Professor Owen now founds his opposition, is purely imaginary, and not that taught by Gall and Spurzheim, it is only necessary to carry it onwards, and see its legitimate results. The size of the cerebellum would be looked at in woman, not to determine the intensity of her sexual feelings, but to say that the larger it was found, the larger would be her family. With reference to experimental physiology, it had shown, that injury or removal of the cerebellum disturbed or destroyed the motive powers, and many persons have inferred from this, that the cerebellum was the co-ordinator and regulator of all voluntary motion whatever. The error here consisted in assuming a part for the whole. The cerebellum, as well as every distinct phrenological segment or division of the cerebral hemispheres, was placed in communication with the common locomotive and sensitive nervous centres; the ganglia of the spinal cord, the medulla oblongata and its anterior prolongation beneath the cerebrum, and by means of the nervous fibres which placed it in communication with these parts, presided over, controlled, and regulated those movements of the body which were normally associated with the mental function which is located there. The cerebellum was not only the seat of the sexual feeling, but also presided over the movements of the sexual embrace —one of the most nicely-adjusted and coordinated series of muscular movements that existed. In the fly and the common fowl, familiar examples, its precision was so exact, that the spermatic fluid was conveyed to the interior of the female without intromittent organs. Its external form was much modified in different animals, and probably arose from this circumstance. The abnormal conditions of these separate nervous centres, and their communicating motive and sensitive fibres, played an important part in hysteric, convulsive, and epileptic disease. A cerebellar has long been recognised as well as a cerebral form of epilepsy, and also the disturbance of the motive functions by its irritation, mutilation, or injury. Mr. Howship had informed him of a fracture of the occiput, attended with sexual excitement, during a semi-comatose state. He had observed analogous disturbance of motor phenomena precede apoplexy, involving the cerebral region of cautiousness. He expected far more from observations made with such minuteness, and detailed with so much care as the author had employed in this case, 'than from mutilation, and the so-called removal of the cerebellum and cerebral hemispheres. He was astonished that any anatomist could place confidence in the inferences drawn by M. Flourens from such experiments. Was the division of arteries and veins, and the mutilation of investing membranes, to go for nothing? Read the biography of that wonderful hen, from which M. Flourens removed the cerebral hemispheres, and watched daily for ten long months, and say whether his deductions are of any physiological or psychical value. He would advise those physiologists who quoted and brought forward anatomical data and physiological experiments as conclusive objections against the views of Gall, to read the answers which he himself wrote in 1825 to the objections of Tiedemann, Rudolphi, Coster, Flourens, Serres, and Foville, and not content themselves with quotations from his earlier work in 1809.

The PRESIDENT then observed that the time allotted for discussion was just up; but if the author of the paper had any remarks to make, he had no doubt they would be heard by the Society with pleasure.

Mr. DUNN said, at so late an hour he would not trespass on the attention of the meeting. To him it was highly gratifying that a case which he had watched and investigated with such deep interest should have been the occasion of so interesting a debate. He had only one observation to make: while he fully concurred in the justness of what had been said by Professor Owen and Mr. Travers as to the effects of inflammation in depressing and destroying the functional powers of a part, he felt assured they would agree with him, that in the incipient stage of the inflammatory process,—the stage of irritation, if he might use the expression,—the first and immediate consequences were nervous excitement, and exaltation of the functional powers.

PATHOLOGICAL SOCIETY OF LONDON.

March 19th, 1849.

C. ASTON KEY, ESQ. in the Chair.

DR. H. BENCE JONES exhibited a specimen of

Fungoid Disease of the Rectum.

The patient from whom it was removed was a female, aged 32, of a scrofulous habit. Catamenia regular; constipation never known to exist. When in her usual health was attacked suddenly, while at dinner on the 13th December, 1848, with pain in the abdomen, vomiting, and tenderness: these symptoms did not yield to remedies, but became, in the course of a month, limited to the hypogastrium: there was then distinct hardness and tenderness, with distension of the lower part of the abdomen; no fluctuation; excessive perspiration and emaciation.

She died on the 19th January, 1849.

Post-mortem.—There was no general peritonitis; the rectum appeared thickened and highly congested on its external surface; about two ounces of pus were found circumscribed in the cavity of the pelvis. On opening the rectum, nodules of fungoid disease were found extending over a surface of nearly four inches in length; the rest of the mucous membrane was healthy; the lumbar glands were not diseased, and no trace of malignant disease could be detected in any other part of the body.

Also a specimen of

Fatty Degeneration of the Kidneys.

Wm. Burden, æt. 36, a labourer, admitted into St. George's Hospital, Jan. 24, 1849: for seven months ankles had swelled towards night; for three months the swelling had been constant, and there had been some enlargement of abdomen. When admitted there was excessive œdema of the legs and body, but not of the face, which was florid; the urine was scanty, with considerable deposit of urate of ammonia, coagulating to nearly a solid mass with nitric acid; the specific gravity 10·37, quantity about a pint in twenty-four hours, and never free from urate of ammonia, or below the specific gravity of 10·26. He died March 13th, comatose.

Post-mortem.—In this case there was a considerable effusion of straw-coloured serous fluid in the peritoneal cavity: this fluid contained several large flakes of fibrin. The liver exhibited a very advanced stage of that degeneration which is termed cirrhosis, more particularly the left lobe of this organ, which was about the size of a small apple: when cut into it presented numerous fibrous bands crossing its interior in every direction, and enclosing only a very small portion of the secreting substance; the right lobe was also somewhat less than its normal size, but presented a perfectly smooth surface. The kidneys, which were of their normal size, were very flabby, and of coarse texture: on removing their capsules, their surfaces were smooth for the most part, but in one or two points were observed small patches, rough and granular looking. They both presented a mottled appearance, and were of a light brown colour. On examination with the microscope, the tubuli were found gorged with oil globules, which rendered the greater majority of them quite opaque: in some this deposition was less extensive; many of the tubes appeared to be very considerably distended, and in the greater majority not a trace of the lining epithelial cells could be detected.

Dr. Peacock exhibited a specimen of

Stricture of the Sigmoid Flexure of the Colon, terminating by Acute Colitis and Gangrene of the Mucous Membrane.

A female, 22 years of age, who had for several months previously suffered from habitual constipation and dyspeptic symptoms, was seized on the morning of Sunday, the 11th of March, with pain in the abdomen and vomiting: she was shortly after seen by Dr. Bentley, who found that the bowels had not been relieved for three weeks. She was directed to take calomel, with small doses of opium, and under this treatment the vomiting and pain became less. I saw her on the morning of Tuesday, the 13th. She then complained of pain in the abdomen, chiefly referred to the right iliac region, and there was tenderness on pressure, sense of resistance and fulness in the course of the descending colon: she had just passed a very large and solid fæcal mass; the vomiting had nearly subsided, and the febrile symptoms were not urgent, the pulse being only 92, and quiet, and the tongue not much furred. She was removed to the Royal Free Hospital, and was directed to have two grains of calomel and one grain of opium every four hours; to take at short intervals effervescent draughts, containing morphia and hydrocyanic acid; and to have emollient applications applied to the abdomen, and a simple enema in the morning. The following day I found her much worse: she had suffered from frequent vomiting during the night, and had had severe pain in the abdomen. She had passed several hard scybalous masses with the enema, and since that several evacuations of a very dark colour, fœtid, and containing shreds resembling membrane; the abdomen was tumid, tense, tympanitic, and extremely tender; the pulse was quick and feeble, and the tongue loaded with a patchy whity-brown fur. The calomel and opium was directed to be taken at shorter intervals, and the effervescent draughts were discontinued. Brandy was also given, and the hot-air bath employed, but she became gradually more collapsed, and died at nine o'clock the following morning, the 13th.

The post-mortem examination was performed about twenty-four hours after death. The abdomen only was allowed to be opened. The small intestines were much distended with flatus, and their peritoneal surface displayed the usual quadrangular vascularity characteristic of inflammation of the peritoneum. There was a small quantity of opaque yellow-coloured serum, containing flocculent portions of lymph, in the abdominal cavity. The colon was of a deep brown colour, and was greatly distended from the cæcum to the commencement of the sigmoid flexure; the distension terminated abruptly, and from that point the intestine was contracted. On laying open the canal, a distinct stricture was found at the point at which the distension terminated, and above that situation it was filled with a dark grumous fluid, of a very offensive odour. The coats of the strictured portion of the intestine were much thickened and indurated, and the upper end of the stricture was surrounded by a large and deep ulcer. From this point to the cæcum the whole of the mucous membrane of the colon was in the state of gangrene, being of a deep brown colour, and in places entirely black. In some parts the mucous membrane had been thrown off, so as to leave ulcers, with the mucous coat exposed at their bases, and in other places the gangrenous membrane hung loose from the subjacent tissues. From the symptoms during life, and the rapid course of the disease, Dr. Peacock had inferred the existence of perforation of some part of the alimentary canal; but, on careful examination, nothing of the kind was detected.

Mr. C. A. **Key** exhibited a specimen of *Softening of the dorsal portion of the Medulla Spinalis.*

Mr. **Key** was called by Mr. Brown, of Houndsditch, to see a young lady, æt. 18, who was labouring under complete paraplegia. The history of the case was as follows:—Mr. Brown saw her for the first time on May 6th, 1847: she then complained of pain in the posterior thoracic region and in the left shoulder. From this she soon recovered. On Oct. 1st, 1848, similar pains were felt, but they soon yielded to the medical treatment adopted. Mr. Brown's attention was drawn to a tumor at this time, apparently attached to the 8th rib, between the angle and the spinous processes of the vertebræ: it was very hard, painless, immoveable, and about equal to the size of a large orange. On the 3d December this tumor had slightly increased.

On March 13th, 1849, this patient, after taking a walk, felt, on her return home, more tired than usual. On the 14th she had weakness and numbness of the legs, so that she could not stand. On the 15th she was completely paraplegic. The motions were passed involuntarily on the 16th, and there was retention of urine. She had a troublesome cough. On the 17th she had rigors and profuse perspiration, shortness of breath, and quick pulse. On the 18th, in the evening, she had a slight convulsive fit, and soon afterwards expired, about 8 P.M. The paraplegia was perfect to the last; and, although she once complained of slight numbness in arms and hands, she could use them.

Mr. **Birkett** gave the details of the *necropsy*, at which Mr. Key, Mr. Brown, Mr. Birkett, and Mr. Brown's assistant, were present. When the integuments of the back were reflected from the middle line outwards, a firm tumor was displayed beneath the dorsal extensor muscles of the left side, overlying the 7th, 8th, and 9th ribs, and corresponding intercostal spaces, and situated in the fossa between the costal angles and the dorsal spinous processes, but not in contact with the latter. This tumor was composed of carcinoma fibrosum, and was very dense. The arches of the dorsal vertebræ and the spines were next raised, and, upon the visceral surface of the 4th and 5th, a growth of such a size as to contract considerably the calibre of the vertebral canal was discovered. This growth resembled carcinoma, although perhaps somewhat lobulated. Opposite to this the theca was congested, although its normal contour was preserved. The medulla spinalis and its theca were removed. Upon opening the theca posteriorly, in the centre, the veins upon the posterior surface of the cord were turgid, and the cord itself was a little flattened. When the anterior portion of the theca was divided in the centre, and reflected laterally, the anterior columns seemed to fall spontaneously upon either side, and to expose the grey matter of the medulla, which was of a darker tint than usual, and very soft. This softening extended about one inch. The softening corresponded to the 4th and 5th dorsal vertebræ, the texture of which, of bodies and arches, appeared to be normal. The new growth was not adherent to the posterior surface of the theca.

In the left thoracic cavity a tumor was found, corresponding with that in the dorsal region outside, and involving the same ribs. It was of a softer texture. The finger was readily passed through this new growth and the 9th intercostal space into the tumor in the back. The thoracic tumor projected considerably into the cavity of the pleura, by which membrane it was covered. The left lung was studded with tubercles of carcinoma, generally sub-pleural, but there was one very soft and large (carcinoma medullæ) in the substance of the lung, near its base. The right lung presented only very few minute tubercles. The tissue of both lungs was œdematous. The other organs were normal, with the exception of a small single ovarian cyst on the left side.

Mr. **Wm. Adams** exhibited for Mr. **Rainey**,

Microscopic Specimens of Fatty Degeneration of Cartilage.

If these portions of cartilage be carefully examined with the microscope, it will be evident that they are in different states of fatty degeneration. In these, in which the disease is least advanced, the solid contents or nuclei of the cartilage cells have become converted into very minute spherules of oil, by which the cells are more or less completely filled: this may be regarded as the first indication of the disease. In those parts of the cartilage in which the disease is in a more advanced stage, the spherules of oil, before noticed, by their coalescence have formed globules of various sizes, by which many of the cells appear distended and enlarged, and no trace of cell-membrane being distinguishable these cells present the appearance of irregularly shapen cavities, excavated in the intercellular matrix, and filled with particles of oil. The inter-cellular matrix next undergoes the same morbid change as the contents of the cells and their cell-walls: this is indicated by the appearance of minute globules of oil, arranged either in irregular lines, and thus channeling the cartilage, or of globules congregated together in large cavities of various forms. When the disease is thus far advanced, and nearly all the cartilage is converted into oil, then those globules of this substance which were formed at the expense of the intercellular matrix, cannot be distinguished from those produced by the degeneration of the cartilage cells and their contents. Where this condition of the articular cartilages is accompanied with disease of the synovial membrane, the part of the cartilage nearest to the membrane is much more affected than that next to the bone, so that a vertical section of cartilage affected with this disease exhibits the fatty degeneration in all its stages, as can be seen in some of the accompanying specimens. In one specimen taken from another diseased joint, the bone connected with the affected cartilage is in a state of fatty degeneration, but this state is much less obvious in bone than in cartilage, from the difficulty which there is in obtaining sections of the former sufficiently thin to admit of examination with the microscope.

I have met with several instances of this state of the articulating cartilages, and described it as early as 1846, in Mr. South's translation of Chelius' Surgery.

As it respects the cause of this morbid change, it may be observed, that all parts of the body, solid as well as fluid, are constantly, though for the most part imperceptibly, being removed, and taken back into the circulation; and as no substance can enter the bloodvessels or absorbents whilst in a solid state, it must follow that such a change takes place in the physical properties of all the solid structures, prior to their actual absorption, as to render them capable of passing through the coats of the vessels,—that is, that they must be converted first into a fluid state. Now it is probable that when the process by which this change of solids into fluids is effected, is perfectly normal, the new fluid is both of a quality and quantity just sufficient to fit it for a ready admission into the circulation, and thus this preliminary stage in the process of absorption is little noticed: whilst on the contrary, when this process is abnormal, and those vital forces by which the disintegration of the elementary constituents of the solid (cartilage for instance) are produced, and the subsequent combination of these elements to form a new substance are effected, are disturbed by some cause or other, then the substance into which the solid is converted is either from its quantity or quality ill fitted to enter the circulation; and thus, either from its quantity or some peculiarity on its chemical or physical properties, becomes obvious as in the case in question, where cartilage is converted into oil. It was at one time supposed that the absorbents are the organs by which all these changes are produced, but as it is now pretty well ascertained that they take place where absorbents do not exist, and as they are common to animals and vegetables, it is certain that they have little or nothing to do with those molecular changes which take place in solid textures, prior to their being taken back into the system. In the fatty degeneration of cartilage the oil is not necessarily absorbed at all, as in these cases considerable quantity of oil may be found on the surface of the articulating cartilages as well as in the cavity of the diseased joint.

Mr. Canton exhibited a specimen of

Congenital closure of the Aorta at the semilunar valves.

The child was a female, and born at the full term of pregnancy. It lived for two days, and died in convulsions, having been till their occurrence apparently in good health. The heart was natural in size and normal in situation; the cavity of the right auricle and ventricle was much enlarged; the pulmonary artery was in the same condition. All the carneæ columnæ on the left side were, so to speak, fused together, so as to obliterate the ventricular cavity, and present in lieu of it a solid mass. The only trace of ventricle was at the upper part of the latter, where was a little hollow space, of a rounded form, just capable of holding a small pea, and presenting within slight traces of chordæ tendineæ and mitral valve. The *ostium aortæ* was perfectly closed, and, on opening the ascending portion of the arch above from below, two small folds of the lining membrane indicated the site of the sigmoid valves. The left auricle was natural, the foramen ovale large, and the coronary arteries arose at their usual place, and ramified in the ordinary manner.

Mr. Critchett exhibited for Mr. Curling a specimen of

Old standing Stricture of the Urethra, with Ulceration behind the contraction, and extravasation of urine into the corpus cavernosum, causing gangrene of that body.

A corpulent man, æt. 65, a master drover, had been the subject of stricture in the urethra for thirty-five years; but he had always been able to pass his water, though for some time in a very diminished stream. In the night of the 3rd of March he was prevented from sleeping, by the occurrence of great pain in the penis, which he found much swollen. On the Sunday morning the swelling of the penis having increased, and being in great pain, and unable to pass his water, he applied to a medical gentleman, who attempted to pass a catheter, but, according to the patient's account, he did not succeed in reaching the bladder, though about a pint of urine, mixed with blood, escaped. This afforded him only temporary relief, and he was brought to the London Hospital about 7 P.M. He was then in great pain, and much depressed, with a small and quick pulse. The penis was in a state of erection, and the skin covering it and the prepuce were red and œdematous. The scrotum presented its usual appearance. An attempt was made to pass a catheter, but the instrument was arrested about the bulbous part of the urethra, and a small quantity of urine escaped. Mr. Curling was sent for, and, on examination, finding no swelling or tenderness in the perineum, and no appearance of mischief about the scrotum, he made a free incision through the skin and cellular tissue on both sides of the penis. Finding the left corpus cavernosum tense and fluctuating, an opening was made into it, and immediately a quantity of urine, mixed with blood, gushed out, and continued to flow for some time. The opening was afterwards enlarged, and the tension of the penis subsided. But the part became sloughy. It was impossible to pass an instrument into the bladder. The urine continued partly to flow from the urethra, but chiefly from the opening in the corpus cavernosum. The patient sank gradually, and died March 9th.

Post-mortem examination sixteen hours after death.—The organs of the chest and abdomen were healthy; the kidneys were large, and their glandular structure healthy. Their cavities were dilated; the ureters were also dilated. The coats of the bladder were much thickened, and its mucous membrane was swollen, and presented the dark leaden appearance indicative of inflammation. The prostate gland was about the usual size, but its follicles were much dilated, and filled with a thick viscid fluid. The prostatic ducts were enlarged sufficiently to admit a small probe. There was a close stricture of the urethra, commencing about four inches and a half from the orifice, and extending to the membranous part: in extent about two inches. Anterior to the bulb an ulcerated opening communicated with the left corpus cavernosum. The urethra, both before and behind the stricture, was coated with lymph. The substance of the left corpus cavernosum was dark and sloughy.

SOUTH LONDON MEDICAL SOCIETY.

March 15, 1849.

JOHN HILTON, Esq., F.R.C.S. President, in the Chair.

Discussion on Dr. Addison's Paper on Anæmia, &c.

The PRESIDENT believed that such cases as those described by Dr. Addison,* had, no doubt, been met with by the members present; and he requested to know, were the capsules (renal) examined. He had looked over the preparations in the museum of Guy's Hospital, and in every case, where both capsules were diseased, and the records preserved, the state of bloodlessness alluded to by Dr. Addison is mentioned, but not when only one was diseased. He considered that the renal capsules must have some important function to perform, as they are well supplied with ganglionic nerves, and are permanent through life. He wished to ask Dr. Addison whether in any of his cases the thoracic duct had been examined.

Dr. ADDISON.—He knew that in one case the duct had been examined by Mr. King: if the duct be compressed, there is rapid emaciation, but in this disease the emaciation is little compared with the flabbiness, and not more than accounted for by the loss of appetite.

Dr. HUGHES looked upon the communication as very valuable. He recognized many of the facts as drawn from life, and of so marked a character as not to be easily forgotten. He mentioned the case in Guy's Hospital, which he at first suspected to be malignant, not being then aware of the author's idea of disorder of the renal capsules. He gave the case of a clock-maker, with this appearance of bloodlessness, who was never exposed to miasmatic influence,—had no hæmorrhoids or hæmorrhage from the stomach or kidneys, and yet afforded a perfect specimen of anæmia, not like chlorosis, but more like a person exhausted by loss of blood; there was also constant vomiting: he was apprehensive of a fatal result, as he considered the disease was malignant, yet there was no tumor in the epigastric region, but merely a fulness and slight tenderness over the pylorus. The pulse is different from the anæmia of females. He did not observe that the appetite was much diminished, on the contrary they generally eat well; sometimes there was vomiting, sometimes not; as to the pathology he confessed he had not the slightest idea. He inquired from Dr. A. what had been the treatment in the successful cases.

Dr. ADDISON.—One case appeared so

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* See our last number, page 517.

[illegible] in the hospital that he was left to nature; but he got well under large quantities of brandy, ordered by the clinical clerk; the other, not so far advanced, had good air, recreation, and every other means tending to improve the health; but in all his cases there was complete failure of the appetite. The person he saw with Dr. Quain had no appetite, but it improved under lemon-juice. He wished the society to understand that he stated these facts as to the bloodlessness and diseased capsule, might be merely coincidences.

Dr. **Barlow**, after regretting that the data as yet were insufficient, was sorry that he could add nothing to them, but must thank Dr. Addison for what he told them, and the encouragement to investigation. There were three fatal cases related. In one case there was malignant disease; in another atrophy; and another was hypertrophied, and contained strumous matter; the anæmia appears therefore to depend on the organ being diseased, irrespective of the nature of the disease. Has seen cases of malignant disease, in which the loss of strength and of the red particles of the blood was more rapid than the loss of flesh. A man came into the hospital rather plump, but then rapidly emaciated, and died. He inquired whether the ordinary treatment in anæmia is the best?

Dr. **Addison** said that the pulse was peculiar,—not the irritable contracted pulse of malignant disease; the pallor was also most peculiar, and there was present an extreme anhelation. Mr. King found no malignant disease of any other organ where the supra-renal capsule was diseased, but he understood that in Dr. Watson's case both the stomach and capsules were implicated.

Mr. **Cock**, in answer to a question from the President, stated that he fully believed there was no relation between the kidneys and the renal capsules, as it was not at all unfrequent to find the one present while the other was absent; but from the circumstance of their being diminished in adult, and much withered and shrunk in advanced life, without any apparent injury to the system, he did not think they performed a very important office.

Mr. **Waterworth**, in confirmation of the above, said that he had always been taught to consider the renal capsules of service only during fœtal life, as was the case with the thymus gland, and considered that his views were strongly borne out from the fact of their not increasing in proportion to the other parts of the body after birth, but on the contrary diminishing, as was evident from what had been stated by Mr. Cock.

The **President**, in conclusion, said that he differed materially from the two last speakers, as he believed there were no organs more persistent than the renal capsules, as he had seen them healthy at the age of 90, although it was true they generally became shrunk and withered in after life, as was the case with all the other organs of the body.

LIVERPOOL MEDICAL AND PATHOLOGICAL SOCIETY.

Feb. 23d, 1849.

On the Abuses of Chloroform.

This meeting was chiefly occupied by the reading of a paper by Mr. Banner, on the abuses of Chloroform.

The writer stated that his object was to separate the cases in which chloroform has an injurious tendency, from those in which it may be administered with advantage. On the introduction of any remedial agent, it is the duty of medical men to test its value by their experience. The employment of anæsthetic agents has come upon us so unexpectedly, and at the same time so forcibly, that we have scarcely had time to view the matter fairly and dispassionately; indeed, its advocates have used such strenuous exertions in its behalf, and have met with so many ready recipients, in the desire to alleviate suffering, that we cannot feel surprised at its almost universal adoption. The difficulty now appears to be in restraining the ardour of its advocates, and preventing its indiscriminate and often dangerous employment. I cannot help quoting a humorous passage from Miller's "Surgical Experience of Chloroform," in proof of what I advance. "And its first sound had come from across the Atlantic. It fell on no dull or idle ears, it was taken up, tried, and speedily re-echoed; and, in a few days, it filled the island. Mr. Liston struck the key note, and a pealing note it was. We followed here with less power, but we hope in tone; well pleased to find that, high as the note at first seemed to be, it was still within reach of an ordinary compass. The profession was surprised, excited, charmed, in the mass. The elderly gentlemen had their preconceived and heretofore settled notions disturbed; not a few grew irritable, and resented the interference; they closed their ears, shut their eyes, and folded their hands; they refused to touch the unhallowed thing; they had quite made up their minds that pain was a necessary evil, and must be endured. On, notwithstanding, sped the movement. The thing was too vast, the impulse too strong, and the promoters too *nimble* to be so obstructed. Once moved, the *vis inertiæ* was too great, and bore down all before it. The obstructors, scarce thinking it could come, were gaping, taken unawares, upset, and ridden over; some may have been crushed fatally; but the majority, recovering from their surprise and shock, gathered themselves up again, and with a run, mounted behind—hurraing and shouting with the best."

Appeals, too, have been made to the public, of so strong and exciting a character, that medical men have been obliged to "hang on behind," as Professor Miller so graphically describes it, and even raise the voice in anticipation. The public, as might be expected, received chloroform as a great deliverer; they embraced it with the ardour of infatuation naturally resulting from a desire for exemption from pain. They have had every inducement held out to them. They were told that "it produces no unpleasant symptoms, such as headache, giddiness, sickness, or incoherent talking, but, on the contrary, is followed by a train of agreeable sensations." Two years have passed since the first great "note was struck," and medical men are more capable of arriving at correct conclusions as to its value. No one can deny the value of this agent when applied with discretion, nor would it be just to withhold the meed of praise due to the indefatigable introducer of it. There is a great amount of prejudice operating on the profession, in the consideration of this subject, as is proved by the many publications; and I feel a difficulty in steering clear of them in the remarks I am bringing before you. My desire is to separate the good from the bad. I am no opponent of anæsthesia, but anxious to see it used with discrimination, and placed on a fair and sound basis; to effect this we must strip it of its universality and infallibility, which can only be done by separating the cases in which its application is hurtful, from those in which it acts beneficially. As Mr. Bainbrigge has very properly remarked, in his Pamphlet on Chloroform, "it is but right and reasonable we should know whither the path leads, on which we may be entering, and not rush blindfold on our way." The first cases which I shall draw your attention to, are those seen by me, where the constitution was much reduced, from previous disease, hectic symptoms present, and amputation the only means of saving life; in these cases chloroform was administered, which produced an extraordinary depression of the system, almost amounting to syncope, from which the patients never rallied. The heart's action in the instances alluded to almost ceased, not from an undue loss of blood, for this was carefully avoided by the dexterity and skill of the operators. The first inhalations produced a greatly increased action of the heart, which was soon followed by a great diminution both in its frequency and power. The operations over, and the vapour removed, the pulse again resumed its rapid beat, but its volume was still so small as scarcely to be felt; nor did it ever increase, but, on the contrary, became weaker and weaker, until it could no longer sustain life. There has always appeared a great difficulty in restoring patients, reduced as these were, after the operation; the usual stimulants cannot be employed. All the writers on this subject agree that syncope is much to be dreaded, and look upon it as the most alarming symptom that can attend anæsthesia. Miller says, "should syncope occur, in addition to the fanning, ammonia may be put to the nostrils, and artificial respiration established, by strongly compressing the chest with the hands; but the giving of brandy, wine, or anything other than air, by the mouth, must not be thought of. The patient has no power of swallowing, and what is worse, no power of expectorating; the fluid is as likely to pass into the larynx as into the gullet, and death may result." In the cases under consideration, where the powers of life are reduced to so low a degree, we cannot wonder at syncope supervening: were chloroform not used, we could use the ordinary stimulants and recover the patient; but where it is administered, it appears to contribute to the fearful symptom, and at the same time deprives us of the power of using restoratives. I am aware that these were extreme cases, and it may be argued that the chances were against their recovery, even if chloroform had not been administered; every surgeon of any experience, however, is aware that such cases very frequently recover, and that too in a remarkable manner, when the cause of suffering is removed. In the cases where chloroform was used, on the contrary, there was the depression which naturally follows strong stimulants, exerting an influence too great to be thrown off;—life's powers, already reduced to the lowest ebb, cannot bear the depression consequent on the inhalation of chloroform. The vomiting induced, and the continued nausea, existing in such a system, must contribute in no small degree to extinguish the flickering spark of life; and notwithstanding the assurance that the inhalation is attended with "no unpleasant symptoms, such as sickness, incoherent talking," &c., yet, strange to say, in almost every instance in which I have administered it, or seen it administered, these symptoms have been present.

An amputation of a compound fractured leg was performed on the 24th of January at the Northern Hospital. The man was healthy, and in a very good state for the operation; the chloroform was inhaled, and the desired effect produced. After the operation vomiting came on, and continued without intermission for 24 hours; the tongue soon became furred; the stump, as might be expected, assumed an unhealthy character, and he died on the 7th of February. What was it that caused vomiting in this case?

may we not reasonably ascribe it to the chloroform?

The next class of cases which I would remark upon are those of women, of a highly nervous temperament, and consequently unfit subjects for the inhalation of chloroform; in such, hysteria and incoherency may come on, which in an operation, to say the least of it, would be attended with much unpleasantness. Dr. Snow says, "in patients subject to hysteria, a paroxysm is sometimes occasioned by the vapour, but it can always be quieted by continuing the inhalation." If hysteria only manifested itself at the commencement of the inhalation, the continuance of the vapour would no doubt overcome the difficulty, but it presents itself as often when the patient is recovering from the effects of it. In one instance, a powerful young lady, who had been under the influence of chloroform and under the hands of the dentist, suddenly sprang forward and seized the unfortunate operator round the neck, and held him there so tightly, that it was with difficulty he could be disengaged. This was followed by crying, sobbing, and the usual accompaniments to hysteria, and she had to remain a considerable portion of the day in the dentist's room: if such effects occur when the patient is under its influence for a minor operation, it is equally likely to occur when a subject of a highly excitable nature is undergoing an operation of importance, or in midwifery. Incoherency is occasionally caused in such systems.

Mrs. ———, æt. 23, was delivered of her first child under the influence of chloroform. She was of a highly excitable nature. The delivery was accomplished to the satisfaction of every one concerned. In a short time however she became restless, moving in her bed from side to side, so that it was difficult to restrain her; in less than an hour this excitement ran on to delirium, approximating delirium tremens. She laboured under all sorts of fantastic delusions. This state of things continued for three hours; on the third day peritonitis ensued, and on the fifth she died. I do not intend, by the relation of this case, to ascribe death to the use of chloroform, although I think it more than probable that the excited state induced by it contributed in no small degree to promote the puerperal peritonitis, which was the cause of death. It would be well to ascertain the number of cases of puerperal fever that have proved fatal since the introduction of anæsthetic agents, and compare them with the number occurring in the same given time before its admission into practice; we should then, in some degree, be prepared to judge of the influence of anæsthesia in conducing to that state.

Another case occurred in the practice of a friend of mine, where chloroform was administered in a first labour. This patient was kept under its influence for several hours, and at length delivered. Soon afterwards she awoke out of a sound sleep, and became most restless and delirious, fancying that strange people were in the house, and many such delusions. This state continued during the day and greater part of the night, leaving the patient weak and dejected: she ultimately recovered. These ladies were very loquacious, constantly talking, and, as Professor Miller says, in speaking of the first inhalers of chloroform, "an unwonted hilarity seized the party; they became bright-eyed, very happy, and very loquacious." I am quite satisfied that chloroform may be inhaled by many persons of a highly excitable temperament without causing the effects I have referred to; nevertheless, the fact of a bare possibility of such an event, is quite sufficient to justify medical men in pausing, ere they administer it in such constitutions.

There is a class of persons in whom I have noticed a proneness to *convulsions*, where chloroform has been inhaled. They are usually men in robust health, of strong frames, not fat, but muscular. The state I allude to is what writers on chloroform denominate "an excitement of the voluntary muscles." In these cases vomiting has either preceded or followed the inhalation.

Miller says, "sickness will scarcely fail to occur, if the stomach be occupied with food or ingesta of any kind, recently taken; and if a large quantity of chloroform have been consumed, by reason of long protraction of the operation, a certain degree of nausea may be expected." It has so happened, that in the cases I allude to, a considerable time elapsed before they were under its influence. It is much more difficult to place strong healthy people under the influence of chloroform than the young or delicate. I would rather ascribe the convulsive action to the effect produced on the brain, which, I apprehend, becomes much congested. I will relate two short cases in exemplification.

John Stanley, æt. 47, was admitted into the Northern Hospital, on the 29th of September, with compound comminuted fracture of the leg and ankle joint. He was a whitesmith, of strong frame, and in the enjoyment of good health, when he met with the accident, which was of so severe a character as to require immediate amputation. Chloroform was administered, to which he first seemed very averse, and it was a considerable time before he was affected by it. At length the eyes began to roll, the breathing became more laboured, the pulse full and quick, the face became distorted and of a chocolate colour, the voluntary muscles began to act, and he was for a short time in so *violent a convulsion*, and the heart's action so nearly quiet, that I feared instant dissolution. The lacerated muscles were drawn up the leg, and the broken bones protruded in a frightful manner. At length a deep snorting, stertorous breathing succeeded; the excitement passed off, and the limb was amputated; on recovering from the stupor he vomited. This man recovered slowly, and it was three months before he left the hospital.

The other case was a brachial aneurism, occurring in a strong young man, a blacksmith. In this instance a considerable time also elapsed before the desired influence was produced: at length the eyes became fixed and insensible, the breathing slow and laboured, and the signal was given, that "all was ready." The word was no sooner said, than the patient's voluntary muscles became much excited; indeed to so great a degree as to require three or four men to hold him: the handkerchief was still held to the nose and mouth, more chloroform and more yet was administered, when he became as calm as could be desired. My friend and colleague, Mr. Stubbs, commenced an incision, and had just exposed the artery, and was about to pass the ligature, when up jumped this Hercules a second time, and required the strength of several men to keep him down, and to keep the cut member from injury: chloroform was again applied, and after a few minutes delay the patient became calmed. This operation occupied twenty-five minutes; whereas, but for the interruptions described, it would not have lasted a sixth part of the time. The usual quiet of the theatre was converted into a place of much confusion.

It would be well then before administering chloroform, to ascertain, if possible, the temperament of the patient; and this I conceive applies more particularly to midwifery, where such scenes as I have described might prove of serious injury to the patient, and discomfiture to the surgeon. I am not contending against the use of this valuable agent; it is against its abuse that I raise my voice. People who are of a different temperament to those I have alluded to, will derive all the advantages due from anæsthesia, without its dangers and annoyances. The younger the subjects, the better do they come under its influence, and the more rapidly do they recover from it.

I have now used chloroform in several very painful operations, and can vouch for the benefit produced both to the patient and to the operator; but in such a case as the one related, of aneurism, where the surgeon has to display all the virtues of a good operator, accurate anatomical knowledge, cool self-possession, with a quick eye, and a steady hand, surely he is unwise to run the risk of such a scene as the one referred to, more particularly as the operations for aneurism, and those of a like delicate nature, are not very painful. I could not but admire the display of cool determination on the part of my colleague. Such cases have certainly the effect of trying the temper of the surgeon: and here I would suggest to surgeons generally, whether it were not prudent to draw a line, and separate the cases of a very painful character from those that are not so; in the latter, I would class hernia, aneurism, and all minor operations, and all those that can be performed quickly. Children, who can bear pain badly, and cannot be reasoned into a firm purpose, and consequently struggle, are the very subjects for its use; but here it ought to be administered with the greatest possible care.

As regards the application of chloroform to midwifery, I would advise the same line to be drawn as I have recommended in surgical operations, and would strongly urge the necessity of ascertaining the temperament of the patient before its administration, so as to avoid the states of excitement certain systems are prone to take on, when influenced by it, and would strongly advise the withholding it in all natural cases, until the head is about to be expelled; which I believe is admitted to be the part of labour in which the pain is insupportable.

We hear of women who have been kept under its influence for many hours; indeed, I heard of one case, in which many ounces of chloroform had been used, and the patient kept under its influence for 48 hours. If anything would prove the harmlessness of this medicine, it surely would be where such cases are proved to have occurred, and are fairly and candidly stated. But I shall endeavour to shew, presently, that where this agent is administered quickly and continuously, the labour is *retarded*, by destroying the muscular action necessary for its completion.

There is one class of cases in midwifery in which chloroform ought not to be administered, and that is where instruments have to be used, unless the head is so far advanced that the forceps can be used with exactness, and without any risk to the mother. Men are not all equally clever and expert in the application of the forceps, and much injury has been avoided by the patient's expressions of pain when there has been a wrong application of them. A writer of much celebrity, after an extensive practice of forty years, says, "should *much pain be experienced* by an attempt to lock the blades when well applied, as regards their position, we may be pretty certain a portion of the neck of the uterus is included in the grasp of the instruments: we must *inquire* on which side of the pelvis the pain is felt, and withdraw the blade from it, and introduce them anew."

By depriving the patient of sensation we take away a great guide to the correct application of the forceps; we may in fact include the neck of the uterus within them, and cause a serious injury, without either the patient or operator being aware of it.

Mrs. A———, æt. 27, was taken in labour of her first child: her medical attendant is a surgeon of great experience, and has obtained a deservedly high professional reputation. At the request of the patient, chloroform was administered, and she was kept under its influence for several hours, when the action of the uterus ceased, and it was considered necessary to use forceps. The delivery was effected. On recovering from the effects of the chloroform, the patient complained of much pain. In a few days she died. The autopsy exposed a laceration of the neck of the uterus, and considerable injury to the vagina. The parts were sloughing.

A patient of mine determined to have chloroform administered during the delivery of her first child, which I would not consent to use in her case; consequently she placed herself under the care of Dr. ——, of Edinburgh, a great chloroformist. She was 38 years of age, and of delicate frame, in the third month of utero-gestation. A tumor was discovered in the iliac fossa, which was slightly painful when handled; it was of the size of a large orange, of uneven surface, and appeared to be situated in the Fallopian tube; it was slightly moveable, and could be taken hold of readily with the finger and thumb. Her younger sister had died a few years ago from medullary sarcoma of the Fallopian tube. The delivery took place at the full period. The labour was tedious, extending over fifteen hours; during the latter six, she was kept under the influence of chloroform, and had in the end to be delivered with the forceps. For some days the case seemed to be going on well, when the patient complained of pain in the abdomen, and had the usual symptoms of peritonitis: on the ninth day she died. The autopsy disclosed the fact that the neck of the tumor had been lacerated; there was effusion of blood into the pelvic cavity, and peritoneal inflammation. Dr. —— is of opinion, that the laceration took place some days after delivery, "caused by the strain from the weight of the collapsed uterus." It appears to me that the tear took place at the time of delivery, and was occasioned either by the natural action of the uterus, or, what is more likely, by the strain caused by the manipulations with the forceps. The tumor was attached by adhesions to the peritoneal covering of the parietes of the abdomen, above the anterior superior spinous process of the ileum; and by a neck, or pedicle, to the peritoneal covering of the uterus, which was found all but torn through: this attachment had been very considerable. The tumor must have occupied the position of the Fallopian tube. I cannot conceive that the strain caused by the weight of the uterus after delivery could have produced the gradual laceration on the third day, as suggested by Dr. ——; if it had taken place from this cause, it would be natural to conclude that it would have occurred soon after delivery, at which period the gravid uterus is heavier than at a later date; each day it would become less weighty, and consequently less liable to produce such an effect. It is possible that it might be caused by the natural action of the uterus; yet we are led to believe that this could not have been the case here, from the fact that the labour is described as "natural, though tedious," and delivery was effected by the use of the forceps. Dr. —— has inadvertently neglected to state in what condition the uterus was at the time the forceps were used; but from our knowledge of his great experience and judgment I am justified in asserting that there was good cause for resorting to their application, and am led, after a due consideration of the case, to conclude that there was a cessation of action in the uterus. Here, then, chloroform deprived the patients of the sense of feeling; consequently they could not complain, and attract the surgeon's attention to unusual complainings—such as you are hurting me very much! you cause great pain in the tumor! &c. May we not conceive that prudent and excellent accoucheurs, as both these are, would have desisted in their attempts, if attracted by such cries? And this leads to the reflection, of the power chloroform exerts in causing *inertia* of the uterus. It is generally acknowledged, that too rapid or too prolonged an exhibition of chloroform has the effect of paralysing the involuntary muscles: "a still farther application of it paralyses the voluntary muscles, and stimulates the reflex, and if it be carried still further, the reflex system becomes paralysed;*" and again, "it is essential to bear in mind, that the same amount of chloroform which suspends the action of one portion of the nervous system will act as a stimulus to others: thus, for instance, the quantity which is sufficient to deaden the sensation of pain will excite the voluntary muscles; if the quantity be farther increased, the voluntary muscles are paralysed, and the involuntary ones excited." In these various degrees excitement precedes depression. With this conviction I feel satisfied, that by exciting the involuntary muscle, (the uterus,) which is named as one great object in the administration, to too great a degree, or for a period too long, that inertia is occasioned. This appears to be a point of importance. I heard of a case of a physician-accoucheur, in this town, where after using the chloroform, (I believe) nine hours, the uterine action became suspended; so much so, that it was thought advisable to apply shocks from a galvanic battery, which had the desired effect.

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* Mr. Stubb's Introductory Lecture on Surgery.

My friend Mr. Harris, who has had considerable experience in the use of chloroform in midwifery, informed me, that in one case, after using it eight hours, the uterine action became suspended; he very judiciously discontinued its application, when in a short time the pains again recurred, and delivery was effected without its further use.

These cases go to prove that chloroform, in some instances, arrests the action of the uterus: an action peculiar to itself. It does not follow that the entire power of the reflex system of nerves must become suspended, to produce inertia of the uterus. This state is occasionally present where chloroform has not been employed, from exhaustion of that organ; in which exhausted state chloroform also places it, if administered too rapidly, or for too long a duration. I believe that it is usual to have the uterine action suspended for a while when anæsthesia is first applied in labour. Would it not then be an act of prudence, to say the least of it, to withhold this powerful medicine, except in cases attended with extreme pain, or where some peculiarity exists, which would render it justifiable? "There are many labours so favourable, that the patients bear what pain there is cheerfully, and make no complaint, unless it be for a few moments, whilst the child's head is passing through the external parts. In cases of this kind, chloroform is not indicated." Instead of despairing, all women should believe, and find comfort in the reflection, that they are, at the time of labour, under the peculiar care of Providence; and that their safety in child-birth is ensured by more numerous and powerful resources than under any other circumstances, although the inducements held out to them may bear the credit of freedom from pain and danger.

In conclusion, I would remark upon the careless manner in which chloroform is usually administered; and would draw attention to the great discrepancy of opinion regarding the quantity used. Whilst Dr. Simpson and his followers advocate three drachms as the proper quantity, others recommend a few minims. Thus Dr. Snow writes, "I feel obliged entirely to dissent from the practice recommended by Dr. Simpson, in the *Monthly Journal of Medical Science*, for October last, of putting three or four drachms on the handkerchief to begin with. I do not dispute that he has tact enough to practise this plan without accident, but I feel sure that it will lead to fatal results in other hands." He further remarks, "I never give chloroform without the apparatus, except to keep up the insensibility during operations on the face and mouth, when it cannot be re-applied, and then I use a sponge squeezed out of cold water, putting on only 10 or 15 minims at a time;" and again, "chloroform should be given in midwifery, as in surgical operations, with an apparatus; or if the medical attendant be unprovided with one, he should put only from 10 to 15 minims on the handkerchief at a time." There is a vast difference between the quantities here recommended: both authors profess much experience in its use; the one advocates half an ounce at a time, the other 10 or 15 minims. Professor Miller, in his "Surgical Experience," has several valuable suggestions on the mode of administering chloroform, and, coming as it does from one of the greatest enthusiasts in its favour, should be received as of great importance, for throughout his work there is a decided high colouring given to anæsthesia. "Recumbency is always the best position for administration. To administer in the sitting posture, is to court a tedious and imperfect result, with a transitional period of considerable muscular excitement. It will not do to make over to an ordinary bystander the duty of applying chloroform. The administrator must be professional, expert, and, if possible, accustomed to the work. And the value of such an one points chiefly to two things; first, the adroit superinduction of anæsthesia, also maintaining it of the required intensity and duration; secondly, the watching of its play, as it may be called, with a view of guarding against all chance of accident. The administrator's eyes should never be off the patient's face. By the scarcity of assistance, I have repeatedly, during an operation, been startled by the stertor becoming unpleasantly loud; looking up I have found the handkerchief lying unwatched on the face, and on removing it, have discovered a nearer approach to the external signs of asphyxia, than was at all agreeable. Had the chloroform been continued for a short space longer, very serious results would doubtless have ensued. In plain language, I do not hesitate to admit that I have seen patients, by an accidentally undue *protraction* of the application, brought to the very door of death by chloroform." Thus writes this great advocate for chloroform, which, coming as it does from the very hot-bed of anæsthesia, must convince all that chloroform is not so innocuous as some would lead us to suppose, and most emphatically points out the necessity of extreme care in its administration.

ROYAL INSTITUTION.

March 23, 1849.

Professor Baden Powell on

The Nebular Theory.

According to the Professor, the discoveries recently made by Lord Rosse with the aid of his telescope, have by no means overthrown the Nebular Theory. Professor Powell is a moderate advocate of that theory which as yet has neither been proved nor disproved, and which he very happily designated as a philosophical romance.

Medical Trials and Inquests.

ACCIDENTAL POISONING BY OXALIC ACID.

On Friday evening last Mr. Mills held an inquest at the King's Head, New Road, on the late Rev. William Shore Chalk, Rector of Weldon, Bedfordshire, whose death occurred under the following circumstances:—George House, clerk to the Euston Hotel, Euston Square, deposed that at 4 o'clock last Wednesday afternoon, the housemaid informed him that she could not get into deceased's room. He accordingly forced the door open, when he found him lying dead in his bed, and at his side, there was a basin full of matter which he had ejected from his stomach. On the dressing-table were a glass tumbler, a penknife, and a paper labelled "*Purified Epsom Salts.*" In his pockets were found letters, his address, and £4. 8s. in money. He had not previously seen deceased. The Rev. William Monkhouse, Vicar of Goldington, Bedfordshire, had known deceased for 12 years, and during that period was intimately acquainted with him. He never knew a man of a more composed or even temper. He had everything that could make life desirable, and was the last man that would contemplate suicide. In witness's opinion, a druggist had supplied deceased with oxalic acid instead of salts, and that had caused his death. He was in the habit of taking salts. Mr. Thomas Skelding, surgeon, 11, Euston Square, was called to attend deceased, whom he found dead. The basin at his bedside contained the fluid of his stomach, which was impregnated with oxalic acid. In a tumbler on his dressing-table were crystals formed by the acid, and close to it was a paper labelled "Purified Epsom Salts," which contained a portion of the poison. *No druggist's name was attached to the label.* He was of opinion that the deceased was supplied in mistake with oxalic acid, and that he took it unintentionally for Epsom salts. Mr. Lynn Smart, solicitor, 56, Lincoln's-Inn Fields, and several other witnesses, gave similar evidence. Verdict—"Deceased was killed by oxalic acid, but whether he took it designedly to destroy life, or through ignorance of its effects, there was no evidence to prove."

⁂ We record this case not merely to show the great absurdity of the verdict, but to point out the necessity of some rule to compel every druggist to attach his name and address to all medicines dispensed by him. The verdict states there was no evidence to prove whether the deceased took it designedly. The facts of the case leave no doubt that the poison had been supplied to him, under a by no means uncommon mistake, for Epsom salts, and that he must have therefore taken it *accidentally*. The total absence of any motive for suicide, and the fact of the substance having been wrongly labelled, show conclusively that the deceased was the victim of an accident. To suppose he was ignorant of the effects of oxalic acid, and that he bought the poison intentionally, and had it wrapped up in an Epsom salts'-paper, is contrary to all probability. The practice of suicides, when they interfere with the label at all, is to destroy it.

It is the custom with respectable druggists to put their names and addresses on these ready-made packets, and there should be a penalty to enforce this as a rule. As druggists commonly prepare fifty or a hundred packets such as this at once, for retail, it is by no means improbable that a large number of packets of *oxalic acid* are now prepared in the same druggist's shop ready to be sold as *purified Epsom salts!*

Correspondence.

HYDROCELE OF THE SPERMATIC CORD.

Sir,—Mr. B. Cooper, in his excellent lecture contained in the Gazette of the 16th inst., when treating of Hydrocele of the Spermatic Cord, states, "Mr. Curling seems to have adopted Mr. Pott's opinion, that this disease is an œdematous condition of the cellular membrane of the cord,—an anasarcous effusion: but from two or three cases I have seen I am inclined to believe that the collection of fluid is within the serous membrane itself, although there can be no doubt that an anasarcous condition of the cord does occur, as in other parts of the body, and which may be cured by the same local and constitutional means employed for anasarca generally." As this statement does not clearly express my views on this subject, and may lead to misapprehension, permit me to remark, that in my work on the Diseases of the Testis, I have described the form of hydrocele alluded to by Mr. Cooper under the head of "Encysted Hydrocele of the Spermatic Cord," and have detailed (pages 205-207) the particulars of dissections with the object of confirming the view adopted by Mr. Cooper, that this form of hydrocele originates in a partial or imperfect obliteration of the prolongation of peritoneum drawn down at the period of the descent of the testis. Following Sir Astley Cooper, I have denominated this form of hydrocele *encysted*, to distinguish it from the œdematous condition of the cord described by Mr. Pott, which is properly termed *diffused* hydrocele of the cord. Mr. Cooper describes the former as *true* hydrocele of the spermatic cord, and as distinct from encysted hydrocele, which term he applies to an accidental cyst developed in the part. But as it is impossible to recognise this distinction in practice, and very difficult and often impossible even to establish it by dissection; and as the symptoms of, and treatment applicable to, each form of cyst in no respect differ, I consider it better to class both these kinds of cystic collections of fluid in the tissues of the cord under the head of "encysted hydrocele of the spermatic cord."

Mr. Cooper remarks, "whether or not the fluid of the encysted hydrocele of the cord contains spermatozoa, I believe has not been ascertained." I have examined the fluid in several instances, but have never been able to detect these bodies. The cysts developed from the epididymis, which so commonly contain spermatozoa, often extend up the cord, and are then liable to be mistaken for encysted hydrocele of the cord. I believe that this error was made in the few cases in which spermatozoa are said to have been discovered in fluid removed from this form of hydrocele.—I am, sir,

Your obedient servant,

T. B. Curling.

37, New Broad Street,
March 24th, 1849.

Medical Intelligence.

SUBSIDENCE OF THE ASIATIC CHOLERA. DISCONTINUANCE OF THE OFFICIAL REPORTS.

During the past week, there were only *ten* fatal cases of Cholera in the metropolis and its environs. The daily official reports of the cases and deaths from this disease, throughout Great Britain, are no longer given, as the disease appears to have declined; and there is no longer any public apprehension on the subject. As in 1832, we may, however, have another outbreak in the summer; and to provide against this, the Privy Council order of the 28th of September, 1848, for the prevention of epidemic disease, under authority of the Act of last session, has been renewed for six months.

The order of the General Board of Health, dated the 15th of January last, and applicable to the Parochial Board of Glasgow, has been revoked, in consequence of cholera having entirely subsided there.

INCREASE OF THE CHOLERA IN PARIS.

We regret to state that the latest accounts from Paris, dated the 26th inst., represent the cholera as making alarming progress, especially among the patients in the public hospitals. In London, the hospitals have been almost entirely free from the disease. At the Salpetrière, in Paris, there were in one day among the inmates, who are chiefly aged persons, no fewer than *fifty* cases.

There have been altogether in Paris since the 9th inst, 385 cases, and 180 deaths—a mortality of nearly fifty per cent. Of the 385 cases, 203 were among hospital patients, and the remainder were received from without. There are at present but few convalescents.

ROYAL COLLEGE OF SURGEONS.

Gentlemen admitted Members on Friday, March 23rd, 1849:—A. Bowden — H. Cholmeley—G. T. Talbot—J. C. Bompas—J. Dorrian—G. Clarke—J. Pritchard—H. B. Clarke—T. F. Clay—G. J. Brown—J. Wilkins—J. Gibbons.

OBITUARY.

On Saturday morning, the 24th inst., at his residence, Woolwich, Dr. Parkin, R.N., of Cawsand, in the county of Cornwall, in the 71st year of his age, Inspector of Fleets and Hospitals, having served upwards of 53 years.

Selections from Journals.

ON THE CAUSE OF THE PREPONDERANCE OF MALE CHILDREN. BY DR. G. EMERSON.

An attentive inspection of the very extensive reports made in several of the most enlightened countries of Europe, has proved to us most conclusively, that every influence operating in a community to maintain a high state of physical health and energy, leads to an increase in the proportion of male births; whilst, on the contrary, every agency, whether moral or physical, the effect of which may be to reduce the forces of organic life, will diminish such preponderance. In many parts of Europe, where the general population is over-worked and under-fed, the excess of male births is very small. Throughout Prussia and France, the excess of male legitimate births is usually under six per cent., and in England about five per cent. for the kingdom at large. In Philadelphia, where the condition of the general population is so favourable, the male births generally exceed the female about seven per cent., whilst in the rural districts of the United States, and especially in those most newly settled, the predominance of male children is much greater.

An examination of the returns made for many years in France, Belgium, and England, embracing millions of births, shows everywhere a greater excess of males born in the rural population than in cities. Here, then, are causes specified and always existing, which exert a decided influence in determining the proportions of the sexes born. When, however, we come to estimate the influence exerted upon large masses of people subjected to a pestilence singularly calculated to exhaust the physical energies, we view the subject as if placed in the focus of a magnifier. The depressing forces ordinarily existing, we find capable of diminishing the males one or two per cent., whilst those exerted by a severe epidemic, like that experienced in Paris and Philadelphia, have brought down the ordinary male excess of about six or seven per cent. to only one per cent. When the estimate is made so as to include the births in Philadelphia, for the months of April and May, 1833, the conceptions of which took place in July and August, 1832, as well as the illegitimate births of Paris, we actually see the usual male excess annihilated and substituted by a female preponderance.

To exhibit this subject in a still stronger light, let us take the sum of male excess, and instead of comparing it with the whole amount of male births, consider it by itself. Suppose the sum of 400 to represent the excess of males in 10,000 city births, and 600 the excess of males in the same number of country births. The excess of males in the first-named districts would, therefore, be 33 per cent., or one-third less than that in the more rural districts, and this under circumstances ordinarily existing. But when the agencies exerted by the prevalence of a severe epidemic, like the cholera, are brought to bear upon the population, the male excess sinks about 80 per cent. below the ordinary average.

I believe it will be found that the extensive prevalence of every severe zymotic epidemic or endemic disease; every occurrence, in fact, which exerts, either directly or indirectly, a decided depressing effect upon a community, will be indicated on the record of births by a conspicuous reduction in the proportion of males.

In our table showing the births in Philadelphia, there is a perceptible falling off in the preponderance of males, for the years 1837 and 1838. This may, perhaps, be ascribed to the destruction of business and embarrassment so generally experienced, and which commenced in 1836. The intense anxiety and great distress which prevailed, and was kept up for some years after the financial crisis, must certainly have operated strongly upon a large commercial and manufacturing community, and, like all other depressing influences, tended, by indirect means, to diminish the energies of organic life.

When a pestilence or violent epidemic passes through a community, it is generally the most feeble portion of the population that is swept off. The births soon after will exhibit an increase in the amount of males, because the parents will be those endowed with vital energies above the ordinary average—a proof of which is their exemption, or recovery, from disease.

We think there is strong reason to believe, that the institution of polygamy grew out of a preponderance in the amount of female population, induced, perhaps, by a scanty supply of food, or from the use of a description of diet not calculated to maintain a high condition of physical energy. Polygamy once established as a common usage, must tend to foster itself.

In conclusion, it appears to us that the proportions of the sexes at birth are, to a considerable extent, subject to circumstances more or less under human control; and that all measures tending to lessen disease, and promote the welfare and comfort of a population, while they serve immediately to increase the capacities for profitable labour, tend also to promote the multiplication of the sex supplying the main physical power. *American Journal of Med. Science.*

BOOKS & PERIODICALS RECEIVED DURING THE WEEK.

Report of the County Lunatic Asylum near Gloucester, 1849.

La Presse Médicale. No. 13.

Prophylaxis; or, the Mode of preventing Disease. By Edward Bascom, M.D.

Shaw's Medical Remembrancer, or Book of Emergencies. 3d edition.

Pathological and Practical Observations on Strictures. By F. Rynd, Esq.

Philadelphia Medical Examiner. Nos. 45, 46, 47, 48, and No. 1, Jan. 1849.

Healthy and Diseased Structure: with Microscopical Analysis. By William Addison, M.D. F.R.S. &c.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Mar. 24.

Births.		Deaths.		*Av. of* 5 *Win.*	
Males....	740	Males....	505	Males....	592
Females..	705	Females..	543	Females..	577
	1445		1048		1169

Causes of Death.		*Av. of 5 Win.*
All Causes	1048	1169
Specified Causes	1046	1164
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*	236	221
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	38	54
3. Brain. Spinal Marrow, Nerves, and Senses	130	141
4. Heart and Bloodvessels	41	40
5. Lungs, and other Organs of Respiration	179	243
6. Stomach, Liver, and other Organs of Digestion	59	67
7. Diseases of the Kidneys, &c.	18	13
8. Childbirth, Diseases of the Uterus, &c.	11	9
9. Rheumatism, Diseases of the Bones, Joints, &c.	13	7
10. Skin	1	
11. Old Age	51	73
12. Sudden deaths	8	14
13. Violence, Privation, Cold, &c.	30	37

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	11	Convulsions	44
Measles	10	Bronchitis	66
Scarlatina	40	Pneumonia	78
Hooping-cough	79	Phthisis	116
Diarrhœa	15	Dis. of Lungs, &c.	20
Cholera	10	Teething	11
Typhus	40		
Dropsy	14	Dis. of Stomach, &c.	5
		„ Liver, &c.	11
Hydrocephalus	39		
Apoplexy	28	Childbirth	5
Paralysis	22	Uterus	0

Remarks.—The total number of deaths was 121 below the weekly winter average, showing a highly favourable return of the health of the metropolis. Zymotic diseases are now in reference to mortality, but little above the average.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 29·86
„ „ „ Thermometer[a] ...... 40°
Self-registering do.[b] .... Max. 71° Min. 24°

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 0·0.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 3·9° *below* the mean of the month.

NOTICES TO CORRESPONDENTS.

Mr. Richard Dawson, of Finsbury Circus, and his solicitor, are referred to the "Notices to Correspondents," in our last number.

Dr. Cormack's letter next week.

The article on the Coronership in the "Manchester Guardian," for March 17, shall receive our attention.

Dr. W. Rogers's communication on Anæsthesia has been received, and will have early insertion.

Mr. W. Fincham's case will be inserted in the following number.

Received.—Mr. H. G. Davy.—Mr. Aikenhead.

To the list of Insurance Companies, which act upon the equitable principle of remunerating medical men for their reports,—inserted at page 437 of this volume,—must be added that of the *Prudential Mutual Assurance Company*, 14, Chatham Place, New Bridge Street, Blackfriars.

Corrigendum.—In Mr. B. Cooper's Lecture on Hydrocele, page 442, col. 2, 19 lines from top, for "Dr. H. H. Goodear," read "Dr. H. H. Goodeve," of Calcutta.

THE GENERAL INDEX.

We have to announce to our Subscribers that a General Index to the *first* 40 *Volumes* of the London Medical Gazette will, it is calculated, form a large Volume of about 700 pages. The cost of the Index Volume, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. Wilson and Ogilvy, 57, Skinner Street, will receive the Names of Subscribers.

Lectures.

LECTURES ON PRETERNATURAL AND COMPLEX PARTURITION.

By Edward W. Murphy, A.M. M.D.
Professor of Midwifery, University College, London.

Lecture XI.

RUPTURES OF THE UTERUS.

Lacerations of the os uteri—their frequency—total separation of the cervix—cases of Scott, H. Carmichael, Kennedy, Lever, &c.—Laceration of vagina—Symptoms of rupture—premonitory—when laceration takes place—their variable character—Treatment—when the head is in the pelvic cavity—mode of delivery by forceps—by crotchet—when the child has escaped into the abdomen—Objections to the operation of turning—Gastrotomy—Subsequent treatment—Peritonitis—Objections to depletion, purgatives, mercury—advantages of opium.

Gentlemen,—We have still to direct your attention to those lacerations of the cervix that occur in the vagina without engaging the peritoneum, and also to ruptures of the vagina that do not involve the uterus.

Lacerations of the os uteri have been very little noticed, although my impression is that they are almost as frequent as lacerations of the perinæum. They are not viewed as ruptures of the uterus, because the injury is not attended by the same fatal consequences as when the peritoneum is torn: the rent in the mouth of womb heals with as little constitutional disturbance as that in the perinæum, and therefore does not attract attention. The frequency of this accident may, however, be estimated by the traces that are left behind in the cervix, when the uterus becomes subsequently the seat of disease. Having had occasion, I might say constantly, to examine the os and cervix uteri, both by touch and with the speculum, long after delivery, in consequence of some symptoms of disease, deep fissures in the cervix, accompanied by a considerable degree of surrounding induration, attended with ulceration, gave abundant evidence of previous mischief: if inquiry were made into the history of her labours, the patient always gave a florid account of their severity, "the child obliged to be taken away by instruments," &c. Dr. Lever has directed the attention of the profession to these lesions as being the result of protracted labours: he says, "When the waters pass off early, and when the os uteri is thin and tense, such a lesion is by no means unusual; I have on many occasions pointed it out to the students in the hospital who have filled the office of obstetrical clinical clerk."* These fissures, attended as they often are by great and irregular induration, as well as very troublesome ulceration, should be borne in mind if we would form a just estimate of the consequences of difficult labours, and especially of the imprudent application of instruments.

Separation of the cervix has sometimes taken place: the whole disc of the vaginal portion of the cervix has been detached and expelled with the head. Mr. N. P. Scott, of Norwich, relates the first case of this kind.† The os uteri was rigid and contracted: it did not yield to the prolonged efforts of the uterus, and was at length torn off.

A similar case occurred in the practice of Mr. Hugh Carmichael, of Dublin:—A young unmarried female was pregnant of her first child: the waters were discharged in the commencement of her labour, when the os uteri was only sufficiently dilated to admit the point of the finger, being thin and hard. Her pains were slight, and she continued in this state for the better part of two days: the dilatation was then advanced to the size of a crown piece, beyond which it did not extend, its edges still continuing "hard and rimmy." Considering that the obstinacy which the os exhibited might probably result from insufficiency of the pains, Mr. Carmichael gave her three small doses of ergot of rye (five grains each) without effect: the os did not yield, but the head was propelled fully into the pelvis, pushing the cervix before it (there was no deformity of the pelvis). The woman was exhausted; she became delirious; the pulse quick and irregular: "in a word, she must have quickly sunk if interference had not been resorted to." While being delivered by the crotchet, "a strong contraction of the uterus succeeded, when the head was at once expelled, carrying before it the os and a part of the cervix of the womb, the diameter of which measured about three and a half inches." Two hours after delivery, jactitation, restlessness, and difficulty of breathing, took place: a full anodyne was given that procured rest. "On my visit the next morning," continues Mr. Carmichael, "(and I confess to you that it was not without strong apprehensions that I should have found her either dead or dying), to my surprise she was sitting up in bed eating her breakfast, expressing how comfortable her condition was with that of the preceding day." She recovered without a single bad symptom, and in the usual time.*

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* Guy's Hospital Reports, Oct. 1845.

† Med. Chir. Trans. vol. xi.

Dr. E. Kennedy met with two cases of this kind in the Dublin Lying-in Hospital. In one, the woman was confined of her sixth child, and only seven hours in labour. Ten hours after delivery about two-thirds of the cervix was found to protrude from the vulva, which was twisted off. The other was a protracted case: the os was greatly congested, and while attempts were made to support the anterior lip from too much pressure, the posterior portion gave way. Dr. Kennedy removed the remainder.† Both these patients recovered; the latter after a tedious convalescence. Dr. Lever relates, also, two cases. The first patient was in labour from Tuesday to Thursday afternoon, the os uteri resisting all the efforts of the uterus to dilate it, although aided by depletion, tartar emetic, and the local application of belladonna, which Mr. Day (the gentleman in attendance) "smeared on the os and cervix without any visible effect." During a violent pain the os was expelled, having a very fœtid odour. Dr. Lever says, "the vaginal discharge was horribly fœtid; the anus was patent, and fluid fæculent matter was running out: the perinæum was of a dark red colour, swollen and œdematous. On examination, the head was found resting on the perineum, and the fourchette had commenced to lacerate." The child was delivered by the crotchet "without greatly increasing the laceration that occurred." This woman died afterwards of puerperal arthritis.

The second is a very interesting case, which occurred in the practice of Mr. Evans. Labour commenced on Tuesday morning at three o'clock, and continued until Thursday two o'clock P.M. without producing any effect on the os uteri. Depletion, purgatives, local fomentations, anodynes, and tartar emetic, had been used without effect: the os was thinner, but merely admitted the tips of two fingers, and still felt like a hardened ring; the cervix was dilated, thin, and greatly on the stretch." Mr. Evans consulted Dr. Lever on the propriety of incising the cervix, in which Dr. Lever fully agreed: "the os was barely as large as a half-crown piece, and with the exception of the anterior fourth felt as if it were drawn in with catgut; the anterior fourth was swollen, soft, and elongated." The pains for some time had been very frequent, vehement, and very forcing. Dr. Lever "divided the whip cord margin of the os uteri towards the posterior half of the sides of the pelvis, in the direction of either sacro-iliac synchondrosis. The incisions were made during the contractions of the uterus: the patient made no complaint; in fact, they gave her no pain. The immediate result was a diminution of the œdematous condition of the cervix, and the loss of a small quantity of thin watery blood. The pains which had been so forcing did not at first entirely cease, but were much moderated; still, feeble as they had become, slight progress was made: there was a cessation for half an hour, they then recommenced: at four P.M. the os uteri had dilated to the extent of two inches diameter, and at a quarter to five a female child was expelled still-born, but was resuscitated on the application of the usual remedies."*

In all these cases there was extreme rigidity of the os uteri; in all but one a very protracted labour; and notwithstanding so great an injury to the uterus, five of the six patients recovered. The cause of death in the sixth case is at least ambiguous: the most prominent symptoms were those of puerperal fever; and the condition of the vagina was just such as sometimes occurs when it is attacked by erysipelatous inflammation, the result of the absorption of some morbid poison.

The last is a highly instructive case, because it points out the remedy for this extreme rigidity of the os uteri, and confirms the propriety of the practice which we pointed out in a former lecture, that of incising the cervix uteri.† Hitherto the practitioner thought himself fortunate if the death of the child enabled him to remove it before any dangerous symptoms showed themselves. But you perceive that by promptly relieving this unyielding condition of the cervix, the child may be saved, and the mother secured from any risk of so serious an accident as that just described. Besides, recollect that in using this means we are, after all, only imitating Nature, who, in her own way, frequently incises the cervix, and, as you see, sometimes separates it altogether: you cannot go wrong in following her example; and, therefore, when you meet with these very embarrassing cases, where the labour is prolonged, the os uteri undilatable, the child living, I feel justified in recommending you to incise the cervix for its relief. I almost question whether we might not in some cases make an artificial dilatation by a circular incision of the cervix, and thus take away the rigid portion completely. When, under so many disadvantageous circumstances, these patients have recovered from a natural separation of the cervix, there is no reason for supposing that they would not do so when artificially removed under all the advantages that art can give. The life of the child, that cannot otherwise be preserved, should receive its due weight in the consideration of this plan of treatment. The objection which presents itself is the risk of hæmorrhage in the first instance, and of inflammation afterwards. Hæmorrhage is not very likely to be serious when the incised portion is so strongly compressed by the advancing head of the child, and if it occur after delivery, the plug would be a most effectual remedy. Any inflammation that might arise could easily be subdued: far more easily, it appears to me, than what might take place if no interference were attempted.

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* Dublin Journal, vol. xvi. p. 53-54.

† Ibid. vol. xvi. p. 154.

* Guy's Hospital Reports.

† Lectures on Natural and Difficult Parturition, p. 118.

Laceration of the vagina sometimes happens without involving the uterus. Dr. Doherty relates a fatal case of this kind, which occurred before labour began.* A woman, in labour of her eighth child, was in hourly expectation of her confinement: she was seized suddenly with hæmorrhage, without any pain or dilatation of the uterus: a placental presentation was suspected, but there was no evidence of it. The hæmorrhage was checked for the time, but returned in two days afterwards, and she sunk in about two hours, notwithstanding that the hæmorrhage ceased. The stethoscope was applied, but no fœtal heart was audible: "nevertheless (says Dr. Doherty), to satisfy both the prejudice which exists against a pregnant woman being buried undelivered, and our own natural curiosity to determine the exact cause of death, the abdomen was opened after an hour had passed. We passed our fingers into the vagina. At the left side, resting on the brim of the pelvis, lay the fœtal head, over which the neck of the uterus, developed to its utmost extent, was spread. This part presented a cushiony feel, which led us to consider it the seat of the placenta. The os was in its natural position, and had evidently undergone no dilatation. At the upper part of the vagina, at the right side, there were some clots of blood: when these were removed, the finger detected a breach in the vaginal walls, parallel with, and extending along, the ileo pectineal line, a part which was not in the least pressed by the child's head. The brim of the pelvis was so narrowed by a projection of the promontory of the sacrum, that even if the os had been dilated, great difficulty would have been experienced in performing the operation of turning. We then made a minute examination of the peritoneum. The portion covering the uterus was in a perfectly healthy condition: no tear could be detected, no cribriform appearance could be discerned, no where were there traces of inflammation, nor was there effusion of blood into its cavity. But along the brim of the pelvis, at the right side, corresponding to the loss of substance we had observed by examination per vaginam, blood was found effused external to that membrane, and between it and the tissue lining the iliac fossa. There, then, evidently was the seat of the lesion, and from that laceration in the vaginal wall blood must have proceeded. No injury to the uterus could be discovered: the placenta was spread over the anterior wall, extending downwards so as to cover completely the neck of the womb, but had not been previously detached at any one point. The cause of death, therefore, evidently seems to have been the hæmorrhage that followed the laceration of the vagina." The patient may sometimes escape after such an accident as this.

A very interesting case is mentioned in the report of Drs. Hardy and M'Clintock, of laceration of the vagina, where the woman recovered, and bore children afterwards. "This was a case wherein labour was rendered difficult in consequence of the existence of a firm band at the upper part of the vaginal canal, the result of inflammation and sloughing in her previous confinement. Some time after the full dilatation of the os uteri, the pains, which had been exceedingly violent, abruptly ceased: a discharge of blood took place from the vagina, the pulse fell, and the woman became weak, and vomited. On examination, it was found that not only had the band given way, but also that the head had receded. This combination of symptoms excited strong fears that some laceration of the cervix uteri had taken place. Upon making an auscultatory examination, however, the fœtal cardiac sounds were distinctly heard, and possessed their ordinary character; and from this circumstance mainly it was inferred that the uterus was not implicated in the laceration,—an opinion which was verified by the results."*

Taking the cases we have quoted collectively, they bear distinct evidence of variety both as to the cause of the laceration and the general characters it presents.

The symptoms, therefore, are never uniform: sometimes they are well marked and distinct; sometimes exceedingly obscure. In certain cases they are so obvious, that all doubt of the nature of the accident is removed: in others the symptoms develope themselves gradually, and are for some time indistinct. Premonitory symptoms may be either present or absent. In some cases the watchful practitioner may foresee and anticipate danger. In others rupture may occur most unexpectedly. The most usual notice of danger is the violent action of the uterus, accompanied by intense pain: this symptom is especially dangerous if the patient had complained before labour of pain in the same situation as that to which he at present refers it. In some cases the patient complains during her pregnancy of acute attacks of pain in some part of the uterus: if this pain return when labour is going on, and is particularly intense, there is great reason to apprehend laceration, if the action of the uterus be violent. Sometimes the patient describes her sufferings in the most forcible language: she tells you if not relieved she will burst, and seems quite conscious of her danger. When laceration takes place, the symptoms of the accident are usually well marked. A violent pain, causing intense agony, suddenly ceases, and is immediately followed by all the symptoms of nervous shock, combined with those of hæmorrhage. The countenance is extremely pallid, having an expression of anxiety and alarm: a clammy sweat breaks out on the forehead and angles of the mouth; the lips are livid, and the cheeks cold; violent retching succeeds, which is generally incontrollable; everything taken is immediately rejected, the ejected matter being usually the contents of the stomach mixed with mucus, but sometimes is dark, the colour of coffee grounds. This is a very unfavourable symptom. The general surface is cold, the respiration laboured, and the pulse scarcely to be felt: it is extremely rapid, beating at a rate of 150, and often irregular. The shape of the abdomen is quite unequal; the usual oval form of the uterus is lost, and in its place a large and firm tumor (the contracted uterus), is observed either at one side or protruding prominently below the umbilicus. In some cases the child may be felt quite distinctly through the abdomen. Some hæmorrhage may be noticed flowing from the vagina, and the head, if presenting, is usually found to have receded: if it should not, great care must be taken in making a vaginal examination, lest it may do so. In some cases the child escapes completely into the abdomen; but this is not so frequent, although in most cases the limbs of the child may be distinguished through the abdominal parietes.

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* Dublin Journal, vol. xxvii. p. 326.

* Dr, Hardy and M'Clintock's report, p. 304-5.

There is the greatest possible variety, however, in the symptoms. The laceration is sometimes so obvious that even the bystanders can hear the rent. Dr. Trask mentions that in one case the noise was so loud as "to awaken the physician who was taking a nap in the adjoining room." In other instances the only evidence of rupture is the cessation of pains: even this had been mistaken for uterine inertia, and ergot of rye given to increase them. Again, in certain cases labour is completed without any indication of mischief: nevertheless, laceration has taken place, which soon after becomes manifest. So severe an accident generally causes a violent constitutional shock; but there are cases where neither the stomach nor pulse, nor respiration, were in the least influenced at the time of the accident, the patient lying perfectly tranquil, expecting the return of her pains: the symptoms of constitutional irritation appear subsequently, and in a more gradual manner. In the majority of cases, however, the altered form of the abdomen may be recognised, and considered as a diagnostic mark of rupture.

The treatment will need a careful examination: promptitude and decision are essential in order to give the patient a chance of recovery, and yet a decided step in a wrong direction may place her at once beyond all hope. We have to consider two questions: first, can we prevent laceration taking place? secondly, how are we to proceed when rupture occurs?.

The unexpected manner in which this accident often happens, without a single premonitory symptom showing itself, is evident from the cases that we have related: we have also proof how frequently the laceration is the result of a previous morbid change in the uterus. It would be, therefore, extremely unjust to lay it down as a principle, that rupture of the uterus may be prevented, or to attribute so frightful a catastrophe to any want of attention or foresight on the part of the practitioner in attendance: yet this seems to be rather a popular error. The practitioner who has been so unfortunate as to meet a case of this kind, is seldom free from the most unjust suspicions; and on the other hand, "the lucky man," who has had an immunity from this accident, is sometimes inclined to attribute to superior skill what is only the result of his good fortune. I do not think that you can generally prevent laceration of the uterus; but there are some cases in which the violence and severity of the pains, and the resistance to the action of the uterus, are so great, as to give you timely warning that interference is necessary. In all such instances, the previous history should be accurately inquired into, in order to ascertain any evidence of disease of the uterus. Inflammation commencing in the passages must always be considered as a premonitory symptom, because if it proceed it may terminate in softening, and softening in rupture. The treatment, when rupture has occurred, consists in the immediate removal of the child,—obviating as far as possible the shock which the constitution receives from so serious an accident,—and using your best-directed efforts to assist nature in repairing the injury. With regard to the first point: the facility of delivery, and the chances of a successful issue, depend very much upon the position of the child at the time of the accident. If the head be in the pelvic cavity, the case is more favourable than when the child has escaped into the abdomen, and there is less difficulty in deciding on the proper course to pursue: we shall therefore consider each case separately.

When the head is in the pelvic cavity it may be removed either by the forceps or the crotchet. The forceps may be used for the purpose, if it can be applied without disturbing the position of the head; but if there be any difficulty in the application, or the least risk of pushing back the head for the purpose, you should remember that the uterus no longer exercises any counter-pressure on the child, and you may displace the head altogether in making the attempt: the danger of pressing the head against or through the laceration is too great to authorize this mode of delivery under such circumstances. When the life of your patient is in such imminent peril, the safety of the child is of no importance, and should not weigh in the selection of the instrument you employ; but all hesitation on this point is removed by the fact that the child is nearly always destroyed by the accident. In comparing the merits of the crotchet and the forceps for the purpose you have now in view, the only question to determine is, which instrument is the least likely to displace the head?* If there be sufficient room for the forceps, use it; but if the head be at all tightly fixed in the pelvis, so as to require any force in its application, I think the crotchet is preferable if properly used. You can readily understand that in such a case as this you could not perforate in the usual manner. If you were to apply the perforator to the most depending part of the head, and press upwards against it, you would displace it far more effectually than by any application of the forceps. In order, therefore, to perforate so as to prevent displacement, it is necessary to direct the perforator, placed on the pubic side of the head, from before backwards. Let the point of the instrument be applied to the head immediately below the symphysis pubis, so as to fix it between the perforator and the sacrum; press the instrument towards the sacrum until the opening is made, and having succeeded thus far, pass the fore-finger within the opening before the perforator is withdrawn; the crotchet may then be introduced, and the head drawn dowm. While this is being done, an assistant should press firmly on the child in the abdomen to prevent it receding. When the child is delivered the placenta must be taken away; it is generally separated from the uterus at the time of the accident, and forced into the abdomen. Great caution is required in removing it, lest the laceration be increased. The hand is conducted by the funis to the rupture, through which it passes. Do not follow it, or attempt to force your hand through the rent into the abdomen; rather draw down the placenta by the funis to the opening in the uterus, and endeavour to get a portion of the placenta through it with the least possible disturbance. Having succeeded thus far, the remainder may be drawn away without any difficulty. When the placenta is removed, the next point we are generally directed to observe is to replace the intestines if they protrude through the wound. I really do not think this is at all necessary, and may be highly objectionable. I very much doubt that in any of these cases there is the least risk of strangulation of a protruding intestine. I do not know what is to strangulate it; the contractions of the uterus would have an opposite effect, because they would increase rather than diminish the rent. It is quite possible that if any portion of the intestines could get within the opening before the child is withdrawn, the contraction of the uterus that follows its removal might cause strangulation: the rent that was expanded by the body of the child to several inches, may be reduced to one or two when it is taken away, and if the intestines pressed into and occupied the former space, they must become strangulated when the opening is so much reduced: but this is very unlikely to happen, unless in those cases where the child slips completely into the abdomen, so that the intestines fall within the rent while in the act of contracting. In the case we are now discussing, it is more usual for a nuckle of intestine to descend and fill up the rent *after* the contraction of the uterus when its size has been reduced; there is therefore no danger of strangulation from contraction of the uterus, because none takes place, and if it did the rent would be increased. The necessity for replacing an intestine so situated is, I think, very doubtful, nor is it by any means so practicable as it is described to be; you may push back the protruded portion, and find, after the first fit of retching, more intestine down than before. The chief objection, however, to this practice is not merely that it is useless, but that it may be injurious by disturbing too much the coagula surrounding the laceration, and increasing the irritation of the peritoneum by your manipulation. The principal object of your treatment, from the commencement to the termination of such a case as this, is to keep the lacerated wound perfectly at rest, and to remove from it every possible source of irritation: for this reason, therefore, it is preferable rather to leave the intestine undisturbed, than to make useless and injurious attempts to replace it. The remarkable case of recovery related by Dr.

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* The contrivance suggested by Dr. Arnott, and put into practice by Professor Simpson, would be preferable to either forceps or crotchet. An indian rubber cloth disk might be applied to the head, and maintained there firmly by an exhausting syringe, without any danger of displacing the head.

M'Keever, in which a considerable portion of intestine protruded, not only into the vagina, but from the vulva, proves the possibility of restoration under the most unfavourable circumstances: we need not, therefore, feel much apprehension about the minor prolapse of intestine that generally occurs.

When the child has escaped into the abdomen, the case becomes so hopeless as to raise a doubt in the minds of the most eminent practical authorities as to the propriety of its removal: "Reason and experience show," says Denman, "that the patient has a better chance of recovery by resigning the case to the natural efforts of the constitution, than by any operation or interposition of art." The case of Dr. Andrew Douglas, "in which, though the uterus was ruptured, he turned the child, the patient recovered and afterwards had children," led Denman to alter his opinion. "If no other case had been recorded, this would have been of sufficient authority to render it in future the duty of every practitioner to attempt without delay to deliver the patient, and, bad as her chance certainly would be, to be strenuous in using all the means which art dictates to extricate her, if possible, from her imminent danger, and to preserve the child."[†] Arguing in this manner, on the authority of one or two successful cases of turning after the rupture of the uterus, the rule has been laid down, that when the child has escaped into the abdomen, it should be removed by this operation. Yet it appears to me, that you could not adopt a more efficient means of depriving the patient of all chance of recovery than by making such an attempt. Reflect for a moment on the steps of such an operation; the hand and arm are forced through the laceration, the coagula pushed aside, and the rent increased. Can you expect to escape a renewal of hæmorrhage? You proceed to introduce your hand into the peritoneal sac, and, to use the vivid language of Blundell, "you perceive the intestines, feel the beat of the large abdominal arteries, touch the liver, and ultimately reach the feet of the child." Having drawn them down and turned the child, there yet remains its extraction through the laceration; the limbs, the body, the shoulders, the head, passing through it like a wedge tearing open the wound to its utmost extent. What hope could you have of the patient's recovery after such an operation? Yet Dr. Douglas's case recovered; Dr. Blundell's patient was saved; and, if we were to adopt Denman's manner of reasoning, these cases, with a very few others, would be sufficient to authorise us still to turn the child. The inaccuracy of such a conclusion, and the consequent danger of such an operation, is not to be learned by the few rare instances in which the "vis medicatrix naturæ" surmounts every danger and difficulty. We shall arrive much nearer the truth by an analysis of all those cases that have been under treatment when the child was in the abdomen. Dr. Trask has quoted 118 cases of rupture, in which some were delivered by turning, some by gastrotomy, and others undelivered—in fact, left to efforts of Nature for cure. An analysis of these cases presents the following important results:—

Delivered by	Total cases.	Saved.	Lost.
Gastrotomy . .	23	16*	7
Turning . . .	49	19	30
Undelivered . .	46	12	34

These cases, although numerous, cannot be considered to represent the whole of the cases treated according to these different modes, because no doubt many fatal cases have been suppressed; but, as there is no reason for supposing that one class of cases have been omitted more than another, we may fairly assume that the publication or suppression of such cases have been equally under the influence of the same causes; therefore the proportionate mortality here given cannot be far from the truth. We find that those cases which were delivered by turning, and those abandoned to Nature, were nearly equally fatal: between three and four-fifths of them were lost, while rather more than one half of the cases delivered by gastrotomy were saved. These facts are highly important, because they are consistent with the conclusions that I think we must arrive at when we reflect upon these different modes of treatment. We have already pointed out to you the extreme danger of turning, which it now appears is almost as bad as abandoning the case altogether. It remains for us to consider the operation of gastrotomy, its advantages, and the objections to it. When the abdomen is thus opened, and the child removed from it, two important objects are gained: the original wound is left perfectly undisturbed, and the child is removed much more quickly, and with less difficulty, than is possible by turning, especially when the pelvis is contracted. The importance of facility in delivery, thus avoiding the shock of a severe and protracted operation, is proved by Dr.

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[*] Dr. Track gives sixteen cases of hernia of the intestines through ruptures, and only one of strangulation.

[†] Denman's Midwifery, p. 242.

[*] 2 cases of gastrotomy omitted — 1 during pregnancy; 1 after turning.

Trask's researches. He gives 105 cases of delivery by different modes, with the following results:—

	Saved.	Lost.
Delivery accomplished with ease	34	21
Ditto with more or less difficulty	15	35

"This statement exhibits," as Dr. Trask justly observes, "most conclusively the influence of a speedy and easy delivery on the patient's chance of recovery, by showing the great preponderance of easy deliveries in those who survive, and of difficult deliveries in those who sink."

It is just possible that the child might be saved by its quick removal from the abdomen. Among the cases quoted by Dr. Trask there were three instances in which the child was saved by gastrotomy, but none in which it survived when removed from the abdomen by turning. Professor Bedford, of New York, has three cases of ruptured uterus (two of them arm presentations) in which he turned and delivered the children living; but these evidently were withdrawn from the uterus, not from the abdomen. The safety of the child, however, is a secondary question: the chief object of our attention is to give the mother the best chance of being preserved from so serious an injury. It is the more necessary to bear this in mind, because popular prejudice arrives at a perfectly opposite conclusion. The only condition on which they recognise the operation of gastrotomy is for the purpose of saving the child when the mother is dead or dying. The idea of "cutting the child out of the belly," in order to save the unfortunate patient, is quite unintelligible. If this operation, therefore, be undertaken at all, its object should be clearly understood and explained; because to perform it when the mother is dying, for the mere chance of saving the child, would be cruel in the extreme, and justly deserves the eloquent reproval of Dr. Blundell:—"Who that has a heart of flesh in his bosom could coolly sit down in a real case to argue for the advantage to be derived to the fœtus from the performance of Cæsarean incisions before the maternal life is totally and beyond all doubt extinct? Who that has a heart of flesh in his bosom could have firmness sufficient to perform his operations under such circumstances? Who could look on the dying eyes of his patient without suffering the knife to drop from his hand? Who would like himself to be disturbed at such a moment? As long as men are surgeons, surely surgeons may continue to be men."* The object of your efforts is to save the mother; and therefore this operation should only be performed when there is a reasonable chance of its success—as great, at the least, as the operation of turning the child. The objections to the operation are, the assumed danger of opening the cavity of the peritoneum, the risk of additional hæmorrhage, the increased shock of the operation, and the greater difficulty to repair a double injury. To these objections we might easily reply, that the peritoneum is already exposed; that no hæmorrhage of any importance could take place; that adequate means may be used to obviate the shock it might produce; and the wounds that have been made (both lacerated and incised) would have a far better chance of healing favourably when one of them is left undisturbed and the other is under the immediate observation of the practitioner, than when the wound in the uterus is torn up a second time. But the chief objection to this operation, and that which is the most difficult to meet, is popular prejudice. Any operation that is not seen, however painful it may be, or however dangerous, is not looked upon with the same horror as when the surgeon takes his knife and proposes to cut into the abdomen. Although both operations, that of turning or gastrotomy, may be equally fatal, still the former will not share anything like the opprobrium that attaches to the latter. The practitioner, therefore, requires no ordinary firmness to follow the course that his judgment dictates; nor will this operation for ruptured uterus be generally recognised until some bolder spirit dissipates, by his success, the prejudices that float around it. Recoveries from ruptures of the uterus are sufficiently rare to justify any mode of treatment that has not been generally adopted. The facts brought forward give strong support to that which is now proposed, and reason seems to point it out as much more suitable to the cases we have now under consideration than the operation of forcing the hand through the rent into the abdomen, in order to turn the child. With regard, then, to the mode of delivering the child, you may take the following rules:—

1st. When the head of the child is in the pelvic cavity, and the forceps may be applied without difficulty, let it be employed.

2d. When the head is fixed in the cavity, or so tightly adapted to the pelvis that it must be moved back, in order to apply the forceps, this instrument should not be used. Perforation is then necessary, and the operation should be performed with great care, lest the head may be displaced.

3d. When the head is fixed in the brim of the pelvis, perforation may still be adopted, although there is a greater risk of displacing the head, because the perforator must be directed more upwards than towards the sacrum. If it be tightly fixed, it may offer sufficient resistance to enable you to make an opening; but if otherwise, and the head is pushed back above the pelvis, the child must be removed either by turning or gastrotomy. The former operation is very objectionable; and, therefore,

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* Blundell's Midwifery, p. 709.

4th. When the child is in the cavity of the abdomen, forced there either by the uterus or the hand of the practitioner, the only operation that appears to me to give a reasonable chance of success is gastrotomy.

5th. When the child still remains in the uterus, notwithstanding the laceration, it may be removed by turning, because the hand is not of necessity passed through the rent; but even here great caution is required, lest the uterus be further torn by any awkwardness in manipulation.

The *shock of the accident* must be guarded against when any operation for the delivery of the child is about to be undertaken, otherwise the patient might perish while in the act of delivering her. If the pulse be feeble, or hardly to be felt, or if she be in a state of syncope, no attempt should be made to remove the child until there is some evidence of returning strength. She should be given a full dose of opium with some stimulant, as ether, ammonia, or brandy, the temperature of surface and extremities maintained, and the patient not moved from her position until the pulse is restored. As soon, however, as reaction takes place, the child should be at once removed, because so long as it remains in the abdomen it is the chief source of irritation, and consequent depression of all the vital powers.

The treatment after delivery is equally important as the delivery itself. The practice most usually laid down is, first to evacuate the bowels freely, and to meet the inflammation of the peritoneum which follows, by depletion, mercury, counter-irritation, &c. I have great reason to think that this is not by any means the most judicious course to take in these cases: not alone because it has been so frequently tried, and has so often failed,—this might be attributed to the very dangerous character of the inflammation, and the injury,—but its effects seem so completely calculated to defeat the object we have in view—viz. keeping the lacerated wound perfectly at rest, and removing every possible cause of irritation while the reparative process is going on.

Purgatives operate by exciting the peristaltic action of the intestines which surround the wound on every side: if lymph be effused, it is soon broken, and the commencing inflammation rapidly increases; more lymph is thrown out not only in the neighbourhood of the injury, but throughout the peritoneum, to be again torn by the action of the intestines. Nature, with her characteristic prescience, uses all her efforts to prevent this. I have seen very active purgatives given in these cases without producing any immediate effect,—the bowels remained obstinately constipated: if unfortunately they were persevered in, no effect was produced until the inflammation began to subside, and then a violent diarrhœa set in that carried off the patient; the mucous membrane of the intestines seemed to be unconscious of the irritation of the medicine so long as the neighbouring serous membrane was in active inflammation; but the moment that this diminished, then it became too actively alive to the irritants that were accumulated upon it, and violent catharsis was the result.

In the two cases of recovery quoted by Dr. Collins, it is remarkable "that the bowels in both these cases were easily acted upon after having been in the first instance well emptied."* This is an exception to the general rule, because, as Dr. Collins remarks, "For the most part where this injury has occurred, the bowels yield with difficulty to the effects of medicine; and in many cases it will be found quite impossible to evacuate them even with the largest doses of the most drastic purgatives until death is close at hand, when they begin to act violently."† These exceptions, I think, prove the rule. It would seem, in these cases, that the intestines were less involved than usual in the injury, they did not (so to speak) sympathize with the uterus: they were obedient to the ordinary purgatives which acted without increasing the irritation: hence the use of purgatives did not interfere with the recovery of these patients, as I feel assured that it had done in other instances. I should therefore be disposed to discard purgatives altogether, but, if given,—and sometimes it may be necessary,—they should only be administered before inflammation sets in. The ordinary cathartic enema may be injected slowly into the rectum; but if it should not take effect, it would not be advisable to persevere in the administration of cathartics.

Depletion is also a questionable practice: hæmorrhage to some considerable extent has already taken place, and any additional loss of blood only increases the exhaustion of the patient, depresses the vital powers, and renders the constitution less able to resist the inflammation that rapidly supervenes. The patient also might sink from the exhaustion thus produced.

Mercury is undoubtedly a very active antiphlogistic, and most efficient in combating inflammation of serous surfaces; but its use appears to me liable to the same objection as purgatives: it may cause too much irritation to be used safely in these cases.

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* Collins's Treatise, p. 253.

† Op. cit. p. 253.

I have seen mercury given freely, and apparently with benefit: the inflammation began to subside as soon as salivation appeared, but unfortunately diarrhœa set in, the vomiting was increased, and the patient soon sunk under its effects. I may be wrong in attributing this effect to the medicine, but the result, in this respect, of a treatment where no mercury had been used, gives strong presumptive evidence that my suspicions are correct. The only part of this treatment, therefore, that is available for the purpose we have in view is counter-irritation, of which we shall speak presently. What plan of treatment, then, can we substitute for this, the recognized practice in peritonitis? Opium appears to me to supply all that we require: we have already pointed out its value as a stimulant when the vital powers were depressed by hæmorrhage. Here, also, it will maintain the energy of the constitution, while labouring under the shock of so severe an accident. It is the most efficient agent, also, in tranquillising the irritation of the stomach and intestines—vomiting is controlled by it: there is little or no tympanitis, no diarrhœa; pain is greatly diminished under its influence; and thus it accomplishes the most important object of the treatment: the wound is kept perfectly at rest, and every source of irritation removed from it.

In proposing to you this plan of treatment, I have no claim to originality, "nec meus hæc sermo, sed quæ precepit Ofellus." In the year, 1832, Dr. Stokes, of Dublin, pointed out this use of opium in a valuable paper that appeared in Vol. I. of the Dublin Journal. "The first form of disease," he observes, "in which the use of opium appears peculiarly advantageous, may be stated to be that of peritonitis occurring under circumstances *when blood-letting cannot be employed.* Now the following are the circumstances under which I have seen this condition arise:—1st. Peritonitis arising from the escape of fæcal matters into the peritoneal cavity, through a perforating ulcer of the intestine. 2nd. Peritonitis arising from the bursting of an abscess into the serous cavity. 3. Peritonitis occurring after the operation of paracentesis in debilitated subjects:"* all cases in which there is a certain amount of constitutional shock mixed up with the inflammation, and therefore perfectly analogous to ruptured uterus. Nine years before Dr. Stokes' paper appeared, "Dr. Graves treated successfully two cases of peritonitis after tapping, occurring in patients of a bad habit, by opium, without withdrawing one drop of blood, and more lately employed the same remedy in a case of peritonitis from effusion of purulent matter into the serous sac."*

The only opportunity that I had of trying the effect of opium in a case of ruptured uterus, convinced me of its value. The patient was in labour, which was neither severe nor protracted; the pains had ceased, and while the midwife in attendance was expecting their return, she observed a change in the patient's appearance: my assistance was immediately required. The head of the child was in the cavity of the pelvis, but the limbs and body could be plainly felt through the abdomen: the child was delivered by the forceps, and the placenta removed through a large rent in the posterior part of the cervix. I tried the effect of opium in large doses, and was agreeably surprised to find her making a most favourable progress under this treatment; but on the eleventh day, through the imprudence of her friends (who became incautious, under the belief that she was recovering), the symptoms of peritonitis were renewed, and she soon sank. I have therefore no hesitation in proposing opium to you as a remedy in these cases. It may be given in large doses—ten to twenty minims every second hour, watching its effects: when the vital powers are so exhausted the patient will bear a very large quantity of this medicine without producing narcotism. The preparations of morphia are preferable to opium. The acetate, hydrochlorate, or bi-meconate of morphia may be substituted. The bowels should be left perfectly undisturbed, and no purgative given; when the inflammation subsides, they will act of their own accord, and then only should their action be subsequently maintained by the mildest aperient: the cod-liver oil might be given with this view, and simple enemata of thin gruel, or warm water, administered. The pains in the abdomen are best relieved by turpentine applied directly to the surface, the body being kept in a hot air or steam bath. This method is preferable to fomentations and poultices, as they are usually applied, because the patient is very intolerant of pressure on the abdomen, and the weight of these applications si often very distressing to her. The thirst which the patient frequently suffers from may be allayed by ice-water, of which she may be allowed to take freely. By this means you may succeed in combating the peritonitis that is the result of this accident, and save your patient; but do not be deceived by an apparent improvement, nor relax your efforts until you are assured, by the pulse returning to its proper standard, that the amendment is real.

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* Dublin Journal, vol. i. p. 125.

* Op. cit. p. 123.

CLINICAL LECTURE
ON
ACUTE DROPSY,

Delivered at King's College Hospital,
November 7, 1848.

BY R. B. TODD, M.D. F.R.S.
Physician to the Hospital.

(Reported by H. HYDE SALTER, B.A., Med. Schol., K. C. L.)

IN my last lecture, gentlemen, after having made some remarks on dropsy in general, I referred to that particular species of it which is so apt to supervene on scarlet fever, as a type of that kind which may be called active, acute, or inflammatory dropsy. The theory of its production which I gave you was founded on the assumption of the existence of an irritated state of the kidney, an irritated state of the skin, and an imperfect elimination of water from the blood. The first step in the process is the irritation of the kidney, which prevents the due elimination of water, while the irritated state of the skin determines the blood to the surface, and therefore determines the subcutaneous areolar tissue as the early and principal seat of the effusion of its redundant watery constituents.

With regard to the case of the little boy which formed, as it were, the text of that lecture, I have to tell you that he has gone on exceedingly well, and that the dropsy has altogether disappeared; but there still remains that peculiar smoky character of his urine. Some of the urine of this patient has been collected in this white vessel (a *white* vessel is particularly useful for this purpose, as it shows the colour of the urine so well): you observe at the bottom a deposit of a dark sooty matter, having a shade of red: this depends on the presence of numerous blood-corpuscles, which are blackened by the acid of the urine, and also of particles of lithic acid. So long as the urine exhibits this character, so long our patient requires careful attention, as the presence of blood or of lithic acid, and especially of both, indicates a disturbed state of nutrition of the kidney, probably an irritated state of it. A simple way of ascertaining what is the cause of the smoky discolouration of the urine is to apply the test for albumen: if the presence of that is indicated, we may infer that there is blood; but if it is not present, we conclude that lithic acid is the sole cause of the appearance. But the best mode of determining this question is to examine the sediment with the microscope, when both the blood-globules and the grains of lithic acid will be at once recognised, if they exist, by their characteristic appearances. But whichever it be, it need make no difference as to the treatment; for this deposit of lithic acid, or the presence of blood in the urine, indicates a more or less congested, perhaps an irritated, state of the kidney, to be relieved by a certain amount of antiphlogistic treatment. It is in this stage of the disease that, as I think, most benefit is derived from the occasional application of one or two leeches to the region of the kidneys, care being taken not to allow much loss of blood. In children this precaution is the more necessary, as they are so prone to great hæmorrhage from leech-bites. This boy has been leeched once or twice in this way; at the same time we are gradually giving him a more liberal diet, and a little steel, to improve his general nutrition.

I wish now to call your attention to another case of *acute* dropsy, very much allied to that to which we have just alluded.

James Owen, æt. 40, in the Sutherland ward, has been in the hospital some time. He is by profession a chimney-sweep—a trade much exposed to privations and hardships. For the last three years he has had winter cough, with attacks of an asthmatic character, accompanied with all the symptoms of chronic bronchitis. The existence of this congestive tendency in the lungs is a powerful predisposing cause to dropsy; and this we can readily understand, from the relation of the pulmonary to the general circulation; for any obstacle in the lungs is immediately thrown back on the right ventricle, and thence through the right auricle is communicated to the whole venous system. And, when we consider with what little force the venous circulation is carried on, we can easily understand how a slight obstacle can readily cause retardation of it, and consequent dropsy.

We see, then, that the previous condition of our patient was such as to predispose to dropsy. This winter he has had one or two of his old attacks of cough, and a few days before entering the hospital he was exposed to cold more than usually: and this exposure to cold, I would observe, is a very constant feature in the history of these cases. Its effect was first felt on the lungs, but no doubt it had also a less perceptible effect on the skin, checking the cutaneous excretion, throwing more work on the kidneys, and thus producing renal irritation. Three or four days after the exposure the scrotum began to swell, shortly after this the leg, and finally the effusion spread to the upper extremities and face, and was accompanied with considerable dyspnœa.

On examining him, I found his chest universally resonant on percussion; breathing vesicular everywhere, accompanied with more or less of sibilus, which was greatest at the posterior portion of the lungs, the congestion of which was favoured by gravitations; there was universal anasarca; the urine was highly smoky, in diminished quantity, of low specific gravity (1018), and on the application of heat and nitric acid became almost solid, coagulating much in the same way as the pure serum of blood would do, and thereby showing that this fluid constituted a large portion of what he passed from his bladder.

At his first entry into the hospital, our patient was so much depressed that there was no choice of treatment, and I was obliged to prescribe the administration of ammonia and other stimulants; under the action of which he recovered himself in a great degree, and was then able to bear the ordinary plan of treatment.

I beg your particular attention to the order in which the phenomena showed themselves in this case:—1st. there were the previous condition of chronic dyspnœa, pulmonary congestion, and the consequent tardy venous circulation; 2d. exposure to cold; 3d. the suppression of the action of the skin, consequent irritation of the kidneys, and the suppression of *its* secretion; lastly, the development of anasarca, which appeared not in the most dependent parts, but in those parts which afford least resistance to the effusion: frequently, instead of the effusion seeking the most dependent part, the face is first affected, but most commonly the scrotum is its first seat: the common order is, the scrotum, eyelids, face, then lower extremities, and, finally, upper extremities. But whether this order be followed exactly or not, the fact most worthy of your attention is, that the development of the dropsy in these cases is in a great measure independent of position; and this circumstance alone would lead to the suspicion that the dropsy was of an acute character. 5thly and lastly, we have to observe the urine,—its small quantity, smoky colour, and the abundance of albumen in it, showing the escape of the serum of the blood, and of its red particles.

Now, the train of phenomena afforded by this case very closely represents that which is ordinary in the generality of cases of inflammatory dropsy, so that I may say, *ex uno disce omnes;* one case of this kind carefully studied gives you a considerable insight into the clinical history of the disease. And as the history of the case up to this point is a fair representative of the average run of cases, so will its further progress illustrate the course this disease generally takes in its milder forms.

Its principal difference from the ordinary run of cases arises from the antecedent pulmonary irritation, which was the more favourable to the development of dropsy. Irritation and congestion of the lungs, indicated by more or less rhonchus and sibilus, is, however, frequently present in cases of acute dropsy, being set up at the same time as the cutaneous irritation, and doubtless originating from the same cause.

The first day that I saw our patient (18th) I ordered him a hot-air bath; this was attended with almost immediate benefit. The next day (11th) the dropsy was much diminished, but was still abundant, and I ordered a purgative, choosing the compound powder of Jalap, on account of its hydragogue properties, and because the Bitartrate of Potash which enters into its constitution favours diuresis. We found, after the frequent use of the hot-air bath, sudorifics, the application of free counter-irritation to the chest, that in nine or ten days the dropsy disappeared, finally leaving him on the 21st: his urine, however, continued smoky, but much increased in quantity. Examined by the microscope it was found to contain blood corpuscles, fibrinous casts of tubes, epithelium cells, and crystals of lithic acid; so that in this case the smokiness was kept up by the same two causes as originally produced it—namely, congestion and irritation of the kidneys; the specific gravity was 1015, and the albumen was much diminished.

This, then, is the ordinary course of events in these cases; but there are certain complications which sometimes occur with which you ought to be acquainted, and which I shall, therefore, now mention to you.

a. Intrinsic complications, or those connected with the kidney itself:—

1st.—The most common effect of the renal irritation which comes on so early in these cases is a great increase in the quantity of epithelium formed in the renal tubes, and the desquamation or casting off of this epithelium in considerable quantity. In scarlet fever a similar condition of the skin and of the kidney is apt to exist at the same time; as there is an inordinate shedding of epidermis, so there is also of renal epithelium: but in these cases the desquamative state of the kidney exists without a corresponding desquamative condition of the skin.

2nd.—Hæmaturia. Probably whenever the irritation is sufficient to cause desquamation it always produces the escape of *some* blood; but this is generally in so small a quantity as only to cause a smokiness of the water. Sometimes, however, the hæmorrhage is considerable, and when it is so it constitutes the most difficult symptom for the physician to contend with. Perhaps you may remember a case we had in the hospital in the summer, in which the first symptoms were suppression of urine and universal dropsy; the secretion of the kidneys was soon after re-established, but with it a most extensive hæmorrhage from the kidneys, so that it became no longer a case of *dropsy*, but one of *hæmaturia*. That case exactly represents what is so apt to take place in this acute inflammatory dropsy. If the primary state of irritation or inflammation of the kidney does not go off by resolution, it is very apt to assume this hæmorrhagic condition. The vessels, long dilated by the pressure of an undue afflux of blood, suffer in their contractile power, and, becoming greatly weakened, give way at various points: nor do they recover until the general nutrition of the kidney is restored, the undue afflux of blood removed, and the gland reduced to its natural size by the discharge of the great mass of epithelium which distended its tubes, and contributed greatly to its enlargement.

3rd.—A third and much more formidable complication is when the inflammatory state passes into suppuration. This is different from the ordinary or phlegmonous suppuration of the kidney, in being much more extensive, and having several suppurative centres, thereby leading to a more complete and extensive disorganization of the kidney.

b. A very formidable complication of this form of dropsy is that which arises from the inflammation of one or more of the serous membranes, which sometimes supervenes. A man may be going on to all appearance very well, with, however, a diminished secretion of the kidney, when suddenly an attack of pleurisy sets in with more or less fibrinous or serous effusion; and in some instances the inflammation is not limited to the pleura, but the pericardium and peritoneum are affected. I have seen inflammation of all the three cavities come on in the same day. Such cases are, of course, extremely rare, but a serous effusion into one or more of the great cavities—most commonly into the peritoneum—is of very frequent occurrence, in consequence, probably, of the diminished density of the blood. There is at all times a great tendency to it. The most probable explanation of these phenomena is this:—Owing to the imperfect action of the kidneys, the urea, as is proved by abundant evidence, is not eliminated from the blood, but accumulating there, is thrown off in some minute quantity by that slight effusion or halitus that is constantly going on in the serous membranes, and thus becomes a source of irritation, in just the same way as we have seen the rheumatic poison a source of inflammation of the synovial membrane of the knee joint. Hence you have increased afflux of blood to these surfaces, with generally serous effusions, and in some instances formations of lymph and adhesions. And I think it is in this class of cases, and also in those renal diseases connected with gout and rheumatism, that you most frequently find serous inflammation: they do not, I think, occur so commonly with the *true fatty* disease.

It is very rare to meet with arachnitis in acute dropsy. States of delirium, and even mania, often supervene; but these are due to a disturbed nutrition of the brain itself; either due to the watery and pale state of the blood, or to the irritation of the brain by retained urea. When you examine cases of this description after death, you find no evidence of recent serous inflammation, but only a pale state of the brain, which is of less than its normal bulk, and is surrounded with more subarachnoid fluid than is usual in the state of health. The delirium in these cases is very analogous to that which occurs in rheumatism and gout.

c. Lastly, you may have as a complication of this dropsy an irritated state of liver, coexistent with the analogous state of kidney; and it is not improbable that this may be the reason of the greater frequency of serous effusion,—of dropsy of the peritoneum, than of the other serous sacs. In all instances when the liver is irritated, you may expect to find some degree of yellow discolouration of the skin, and the dropsy not confined to the areolar tissue, but affecting the peritoneum also.

Pathology.—What conclusions may we come to as to the *pathology* of acute dropsy? We know that the kidneys are in a state of congestion, which is obviously denoted by their appearance: the cortical substance is red and congested; the Malpighian bodies being large, and full: the redness of the cortical substance is in strong contrast with the whiteness of the tubular portion, which is caused by the abundance of epithelium with which the tubes are filled. If examined with a microscope in an early stage, we can see the epithelium quite filling the tubes. We thus obtain clear evidence of an irritated state of kidney, and we also know from the previous history of the case that there has been such exposure as would be likely to arrest the excretion by the skin; and thus we have very much the same conditions supplied as in dropsy from scarlet fever—namely, an irritated state of kidney, and an abnormal state of skin.

No doubt, the secretion of the skin being checked, the lactic acid which should have passed off by it makes its way out through the kidneys, there acting as a source of irritation: it produces congestion, and this congestion so interferes with the function of the organ that the secretion ceases: the water that should be eliminated is not, but accumulates in the blood; and this watery blood transudes the parietes of the capillaries, while the particular portion of the areolar tissue into which it shall be poured—the subcutaneous—is determined by the irritated state of the skin, which attracts the blood to it in large quantity. The pathology of this form of dropsy is, then, in all essential points the same as that of dropsy after scarlet fever.

Prognosis.—What *prognosis* should we be led to adopt in such cases as these? To this question I answer, that, on the whole, our prognosis may be very favourable: death is rare, unless the irritation of the kidney proceeds so far as to produce those extensive disorganizations that I have referred to; but, taking the ordinary class of cases, this kind of dropsy is not to be considered a formidable disease. But, in forming our prognosis, the previous condition of the patient must be taken into account. Often people have renal disease creeping gradually on them without any symptom of its presence, till, on a sudden exposure to cold, active congestion of the kidney is induced, and the secretion of that organ receives thereby a greater or less check: of course in such a case the ultimate danger would be much greater than if the kidneys had previously been in a perfectly healthy state.

In the fatty disease of the kidney, the first change takes place slowly and insidiously. and without a single symptom to indicate that anything was wrong with the kidney. There are many people at this moment walking about London, who would be very angry at being told that they were otherwise than healthy, yet with whom this disease is creeping on, and will ere long kill them. The deposit begins to be formed in a few sets of tubes; it gradually extends itself, producing partial congestion of the kidney. At first these congestions are not sufficient to affect the physical condition of the urine, which if examined at this period would not afford the slightest indication of disease. By and by some of the Malpighian bodies become so filled by the retardation of the flow of blood through them, that the serum filters through them, and passing off with the urine, makes it albuminous. This escape of serum offers some relief to the congested parts of the vascular system of the kidney; and if the cutaneous secretion is fairly kept up, and the digestive organs act normally, the patient goes on for a considerable time—sometimes, perhaps, for years—without being aware that there is anything wrong with his kidneys. But let any check to the perspiratory action of the skin take place, as from exposure to cold, and immediately the renal congestion becomes general, and dropsy occurs rapidly, and these symptoms show themselves the more rapidly, and the more completely, because of the previously existing partially congested state of the kidney, and the more or less impoverished state of the blood.

Cases such as these are of very frequent occurrence in the London hospitals, and many of the instances of cured or relieved Bright's disease are of this description. The patient receiving the care and comforts of an hospital, his skin quickly resumes its normal action, the kidneys cease to be congested, the urine flows freely, and the dropsy disappears.

To enable you to arrive at a correct opinion as to the fate of a patient suffering from acute dropsy, you must look carefully to the state of the kidney, the liver, and the heart. You should examine the urine daily; for this purpose you will derive the greatest help from the microscope, not only on account of the rapidity with which it supplies you with the information you seek, compared with the slowness of chemical operations, but because you can determine by it the presence of various matters in the urine, which chemistry could not disclose to you; such as epithelia, casts, &c. By it you can recognise in two or three minutes, if they exist, blood corpuscles, lithic acid, epithelium cells, and pus globules; and hence you may at once determine whether the smokiness is due merely to lithic acid, or to hæmorrhage,—whether the kidney is in a desquamative state,—whether it has passed on to a suppurative—or whether its tubes contain fatty epithelium. Therefore, if you wish to obtain an accurate knowledge of the condition of your patient, learn to recognise all these substances by the microscope, and inspect the urine from day to day.

Now and then copious hæmorrhage takes place, as I have said. How does this influence the prognosis? From my own experience I should say that, provided you spare your patient's strength, and do not subject him to too violent antiphlogistic treatment, you will find that this copious hæmorrhage is not nearly so much to be dreaded as might be imagined,—not nearly so much so as the appearance of the pus globules: if pus appeared in the urine I should look upon the case much more seriously. In fact, I consider it the most unfavourable circumstance that can occur: as long as you have mere hæmorrhage the case is still hopeful, but once suppuration has taken place, especially if it be considerable, the probability is that the kidney has undergone disorganization to such an extent and of such a kind as will not admit of repair. The most remarkable case of renal hæmorrhage that I ever saw was in a man admitted into this hospital about four years ago. He was passing daily red urine that could not be distinguished from pure blood, and this he continued to do for several weeks until he was completely blanched. I gave him large quantities of tannin, port wine, and nutritious food, and he ultimately recovered. And to show that the kidneys may undergo all this without suffering any disorganization, I have often since examined this man's urine when he has been in the hospital for other diseases, and I have invariably found it healthy; nor has he had a single symptom of renal disease since.

Treatment.—The very same principles of treatment apply to the management of these cases as to that of dropsy after scarlet fever.

The first and most important object should be *to promote the action of the skin.* We know that there is that sort of mutual relation between the kidney and the skin, that embarrassment of the one leads to embarrassment of the other: hence any relief to the irritated state of one affords great help to the restoration of the other. In the present case, the failure of the cutaneous action has embarrassed the kidney: hence the great thing is to promote free sweating, and this may be best done by the hot-air bath; or, if you fear its debilitating effects (which are to be taken into account in weakly subjects), you may substitute the warm bath.

Your next point will be to obtain relief to the congestion of the kidneys. This is in part effected by restoring the function of the skin. Local bleeding by leeches and cupping will do much in some cases, but little in others. Now and then, when your patient is plethoric and robust, you may, to save time and trouble, take some blood from the arm, but these, you must remember, are exceptional cases; *as a rule*, general bleeding is better avoided. One of the symptoms which would lead me to have recourse to general bleeding in a case of this description, is congestion of the lungs; but I would not adopt this practice unless the patient were young, robust, plethoric, and had been previously in a perfectly healthy state. And even in such cases, large venesections are much to be deprecated, as tending to debilitate your patient and weaken those processes of secretion to which you must look for his restoration to health.

3rd. Purgatives, as indirect methods of relieving the congestion, are of great value; they eliminate water and various morbid matters.

4th. Sudorifics may also be employed, and of these the best is the liquor ammoniæ acetatis, in at least half-ounce doses, two or three times a day. This may occasionally be combined with tartar emetic. Dover's powder is generally less suitable, on account of the tendency of the opium to check secretion.

5th. Diuretics. When the congestion of the kidney has been relieved, diuretics may be given with advantage. Of all this large class, the best, I think, is the common cream of tartar, in doses of from half a drachm to a drachm frequently during the day. If you give larger doses it acts on the bowels, and being carried off by them, does not prove a diuretic. Digitalis, with due precaution, is also very useful.

Irritative diuretics (as cantharides, squills) must be avoided in cases of this kind for obvious reasons, although they are very serviceable in other forms of dropsy. Broom tea, or the compound decoction of broom of the Pharmacopœia, is also useful; and the latter probably derives some advantages from the taraxacum which it contains. The diuretics first mentioned, however, are unquestionably the most to be relied upon, and the most efficient.

There is one thing that I must caution you against in the treatment of acute dropsy, and that is, the use of mercury. This mineral, so valuable in some diseases, is in these cases useless and even mischievous; at any rate I have failed to observe any benefit from it. For these reasons it is better to abstain from its employment, unless occasionally you may have recourse to it as a purgative. But even for this purpose there is no absolute need for you to use it, as there are many other medicines which answer as well if not much better. Moreover, in all cases of imperfect action of the kidneys, whether acute or chronic, patients are quickly salivated, and the salivation is very apt to prove troublesome and painful: large sloughs form in the mouth, and the fœtor of the breath becomes intolerable to both the patient and his attendants.

ACTION OF CELLS IN SECRETION.

THUS, in secretion, one cell selects its peculiar principles, and becomes filled with bile, —another with saliva; but, the active agent being in every instance a simple cell, it is no wonder that changes in the common liquid, within and without the cell, should affect the cellular endosmose, and that secretions should become, to a certain extent, vicarious; that the elements of bile, for example, should be separated by the cells of the kidney, and of urine by those of the skin. Still more important is the recent discovery of one of the most peculiar products of one excretion, urea, even in the healthy fluids of the body,—as in the aqueous humor of the eye; and of both urea and uric acid even in the blood itself, without the intervention of any secreting organ: a circumstance so improbable in the history of secretion, that although, as Dr. Prout informs us, urea was thus seen by him in 1816, he could not believe the fact till it had been established many years afterwards by Dr. Christison and other observers.—*Hawkins' Hunterian Oration*, 1849.

Original Communications.

NOTICE ON THE CHOLERA IN RUSSIA IN 1848.

By Dr. Mackenzie,
Senior Surgeon to the Naval Hospital at Archangel.

[Continued from p. 542.]

Part III.

Prophylaxis — Results of the various kinds of treatment adopted in Russia.

It has been observed that during the prevalence of epidemic cholera in a town, every person suffers more or less, and is rendered peculiarly susceptible to impressions, evidently from the miasm diffused in the air being received into the system.

It has also been observed, that if the secretions and excretions are kept in due order, and the equilibrium of the circulation maintained, nature is adequate to eliminate the poison from the system, as it is received or formed; but, if these become disordered, the poison accumulates, and after injuring the vital qualities of the blood, and depressing the nervous energy of the frame, its action is reflected upon the stomach and bowels, the centre of organic life, manifesting itself first by disordered digestion or purging. The prophylaxis, therefore, consists in keeping the depuratory organs in due order, and in avoiding every cause that is likely to derange the stomach and bowels, or to favour a more than usual flow of blood towards them—such as improper articles of diet, gross living, improper use of stimulants, injudicious selection and use of medicine; cold drinks, especially when the body is heated; mental emotion, fear, grief, and anger.

It is a grievous mistake to suppose that it is improper or dangerous to make an alteration in one's mode of living; on the contrary, an alteration is sometimes indispensably necessary for safety. As the digestive organs are more susceptible to impressions, and less equal to their task, food the most easy of digestion, or that which agrees best with the individual, is to be selected, avoiding repletion. In this country (Russia) it has been proved that animal food, especially beef with bread, constitutes the best diet during the choleraic epidemy,—a demonstration of which is given in the table, by the sensible increase of seizures occurring during the fast religiously observed in the Russian church.

I am confident that every person, however limited or predisposed, may be preserved by proper measures from this disease. I have invariably found that a seizure is preceded by some cause or other, either moral or physical. Much mischief is caused by neglect of the bowels. Some imagine, so long as there is no purging all is right, or, in fact, resist the natural call to alvine evacuations; meantime sordes accumulate, irritation of the stomach and bowels sets in, and the individual is thereby placed in the most imminent danger. I have seen, also, much mischief caused by the use of preservative drops of all kinds, and of restoratives, in cases where the stomach and bowels have shown signs of disorder. Tranquil cheerfulness, and resignation of mind, constitute the best preservative. The tongue may be considered the choleraic barometer; it is peculiar to, and characteristic of, this disease: *it looks as if it had been soaked in milk and water, is white, puffy, and collapsed*, especially at the sides, and quite moist. This state indicates incipient congestion of the stomach and bowels; and should a person in this condition persevere in taking improper food, a choleraic seizure is inevitable. Towards the end of the epidemy, this state of the tongue was less observed, being frequently only yellowish-white at the root and in the centre of the organ, with a tendency to dryness.

It is when this, with other signs of incipient congestions, and disordered bowels—such as slight nausea, loss of appetite, looseness of the bowels, &c., are observed, that the treatment of the disease ought to commence, in order to secure a successful issue.

In these cases, absolute abstinence, an emetic, followed by small doses of calomel, with effervescing draughts, aided by sinapisms to the abdomen, a warm bed, and warm diluent drinks, o promote perspiration, are adequate means to avert a seizure. Where there was a sense of weight at the pit of the stomach, with difficulty of making a deep inspiration, I have taken blood from the arm with decided relief; or where general bleeding was contraindicated, I have applied leeches or cupping to the pit of the stomach, with advantage.

In the choleraic seizures in the Naval Hospital of Archangel, various methods were used with partial success. The practice of the Anglo-Indian surgeons was chiefly confided in, and in my opinion is most deserving of confidence.

There are cases, or rather there is a period in epidemic cholera, beyond which medical art seems to be of no avail whatever: if a rare case of recovery from this state do occur, it is more from some latent strength of constitution than from medical treatment.

We have found *bleeding*, when practised early, of unequivocal advantage, especially in robust subjects; but in order to secure this advantage, stimulants must be administered immediately afterwards, otherwise a relapse into the same state of congestion is apt to follow. For this discovery we are indebted to the Anglo Indian surgeons. Bleeding practised later, when the vital energies were far reduced, was found of no avail whatever. *Emetics* of ipecacuanha were frequently given as a safe stimulant to effect a reaction, and restore the blood to the surface; I have seen an emetic bring up food, though there had been vomiting and purging in a violent degree some hours previous to its administration. The *water and vapour bath* were used extensively, but I cannot say anything in their favour; if they restored in some measure the circulation, it was only for a short period, a collapse seemingly greater than before following their use. *Frictions of oily liniments* containing camphor, oil of turpentine, capsicum, &c., were found of more certain benefit, as also *sinapisms*. I have given after bleeding, an emetic in a tumblerful of French brandy with advantage. To restrain the violent watery purging, opium, sugar of lead, and ipecacuanha combined, in the proportion of one grain each, together with a quarter of a grain of camphor, act admirably.

The much-vaunted *Elixir of Voronèje* was tried and found to fail, as also all other medicines of the same class.

Creosote was tried in St. Petersburg and found useful to relieve the violent vomiting. The same medicine has been tried at Archangel rather extensively, and is looked upon by Drs. Condy and Schnee as a something approaching to a specific. They prescribe it in all stages and in all grades of the disease, as well as to prevent it. Owing to the epidemy being on the decline when it was brought forward by these gentlemen, I have not had sufficient opportunities to test its comparative merit. Making, however, a very large allowance for enthusiasm, &c., I consider it as deserving of further trial in the hands of competent and impartial judges. It appears to me to be best suited, in very small doses, to slight attacks. Where there is great congestion and irritation of the stomach and bowels, it cannot fail to do mischief.

I have tried it in one case, which was of great severity, in the manner recommended, namely, half a drop every half hour; and I found that after every dose the patient felt a burning pain in the stomach, retched, and called for drink in order to throw it up again: seeing this, I discontinued it, the patient having taken two drops and a half. The man ultimately recovered under the use of calomel, opium, ipecacuanha, and camphor, allowing him effervescent draughts *ad libitum*. I was not a little amused to hear this my case being afterwards brought forward as a proof of the efficacy of creosote!

A trial has been made of it in our hospital, and the following was the result:—In eight cases, three slightly attacked, recovered under its use, whilst four of a more serious grade died in a typhoid state; in the eighth case, which was of choleraic diarrhœa, it aggravated the disease, which, however, easily yielded under the use of sugar of lead and ipecacuanha.

Mr. Dashkevitch, who closely watched the effects of the medicine, is of opinion that it seems to do good in slight cases, but in the severer attacks it is either inefficient or pernicious.

Dr. Voitzohovsky has made use of it in his private practice in nine cases, of which four were with every symptom of cholera, and five with diarrhœa. Of the real cholera cases, three died, and one recovered; the five cases of diarrhœa did well, but in one of these, irritation of the stomach was caused by the remedy, which was in consequence laid aside for other means. In the

Naval Hospital this remedy has again been tried in a case of some severity: it was continued for 32 hours without the slightest amelioration, and at last bloody stools came on, with tenesmus and pains over the whole abdomen, which were followed by death.

A trial has been made of a method in great reputation throughout Russia, which goes by the name of Dr. Sledzievky's; and I confess that I have seen several cases recover under its use, but whether they would have recovered without it, I cannot say. It consists of the following: half a table-spoonful of culinary salt is given to the patient in a tumblerful of cold water; he is then enveloped in a sheet soaked in cold water in which culinary salt has been dissolved, and six men are employed to rub him with it for a quarter of an hour, when the body, especially the chest and back, assumes a red colour; he is after this wiped quite dry, and wrapped in woollen blankets; every five minutes he is made to swallow a table-spoonful of salt and water, in the above-mentioned proportions, and for drink is allowed *cold water with lumps of ice in it*. Besides, cold lotions are applied to the head, and injections of salt and water are administered. When the choleraic symptoms have subsided, the case is treated on general principles.

The common people use a method of their own, which has also been attended with more or less success. They take the patient to the Russian bath, rub him well with tar and oil, after which they cover him up in sheep-skin furs, and give him half a wine-glassful of oil of turpentine, in the same quantity of olive oil, or they give him a table-spoonful of tar.

In the district of Shenkursk they have used lashing the surface with fresh nettles, a method as original as it is likely to be useful!

I understand that the peasants of the island of Mudyuga, situated at the mouth of the N. Dvina, observing no benefit from warm baths, but rather the contrary, took the opposite extreme, and used *rubbing the surface with ice and snow* from their cellars, with success.

In this country, as far as I know, no fair trial has been made of *saline injections per venas;* nor can any benefit accrue from their use, unless in those cases where there has been great loss of the watery parts of the blood, and where, in consequence, that vital fluid has become too thick for circulation.

In Moscow, a trial was made in this way with the serum of the blood of a goat, under the impression that the albumen of the blood is carried off by the bowels,—and, I need hardly say, without success.

I have examined and tested the fluid discharged per alvum, and *found no trace of this principle* In cases where the evacuations are bloody, albumen will doubtless be found to exist.*

[To be continued.]

REMARKS ON OBESITY.

By John Richard Wardell,
M.D., Edin.

[Read before the Western Medical and Surgical Society of London.]

[Concluded from p. 539.]

The details of the previous case are quite in accordance with what we know of the general characteristics of the disease. The gradual and uncontrollable mode of its supervention; the utter uselessness of remedies; the symptoms of somnolency, and embarrassment of the respiratory organs; the tranquil, inert disposition; the manner in which the fatal termination ensued, with other traits,—are similar to two other instances of obesity that went on to the destruction of life. In a majority of not less than three-fourths of those who die of this affection, the patients are of sanguino phlegmatic temperament; and if any one will refer to the various evidences given corroborative of this assertion, it will be found as the case; and in those who have not an extreme tendency to the corpulent condition, the same holds good. What has already been advanced respecting the nervous system and the secretion of bile in those of the bilious temperament, with reference to the fatty tissue and its formation in the system, is explicable of this proneness of sanguino-phlegmatic to assume the obese condition. It has been stated that Mrs. G—— took considerable quantities of food, but yet when placed upon an un-nutritious diet the polysarca went on. A like circumstance, with regard to this point, I well remember occurring during the time I was house-physician in the Edinburgh Royal Infirmary. The patient was a female, about 40 years of age, of short stature, and so obese as from the first to make her case considered one of alarming character. The features were grown up with fat; the eyes looked small and sunken, from the cellular deposition of this substance around the foramina. Even walking up and down the ward was attended with difficulty, and the exertion gave rise to further embarrassment of breathing, which was in a quiescent state hurried, short, and laborious. When she spoke, there was the same thick, quinsy-like enunciation as observed in Mrs. G——. The appetite was preternaturally large; somnolency so persistent, that whenever left but a few minutes to herself, she dozed over into slumber. There was a torpor of mind, an aversion to all exercise, a listless apathetic state, which so characterise this curious disease. She was ordered a diet not more nourishing than allowed to the fever patients, consisting chiefly of panado and slops, yet the polysarca progressed, and after being some time an inmate in the hospital she died, with comatose symptoms.* The autopsy much resembled that of Mrs. G——, but in considerably less degree. As I did not, however, preserve any notes of the post-mortem appearances, I cannot particularize the morbid conditions.

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* This corroborates the results obtained by other observers. See page 196 of this volume; also, Report of the Academy of Sciences, page 430.

Another instance I may here mention of a lady who arrived at adult age and then became remarkably stout. She was of fair complexion, and had borne no family. Exercise, partial starving, and every probable expedient, were had recourse to, yet without any amelioration. The malady was not to be arrested, and she, too, died in a lethargic condition. The breathing was laborious; somnolency during the close of her life so urgent that, unless constantly conversed with, or by some such means kept awake, she would drop over into sleep. This invariable symptom of somnolency of course results from mechanical vascular obstruction, which the depositions of fat along the course of the vessels, especially in the neck, produce. The venous blood flows tardily through the sinuses, which, becoming distended, create more extensive encephalic congestion: hence that inanimate expression of the eyes, the clouded intellect, and irresistible drowsiness. Although the head was not opened in the section of Mrs. G——, from the manner in which death took place, the comatose symptoms terminating the illness, it is highly probable the cerebral cavities were distended with serous fluid. The erythematic redness on inferior surface of abdominal parietes was the result of capillary congestion produced by gravity, and the sero-purulent condition of the skin at the flexures could not otherwise than ensue from the friction and constant pressure to which it was subjected: hence the failure of all applications where a cause so excitant could not be removed. The enormous admeasurements must needs have been considered surprising. The patient died early in the morning; and although the body was not opened until twelve hours subsequently, the viscera were quite warm, and in the larger vessels the blood had, after so long a time subsequent to dissolution, in a great measure retained its fluidity. Dr. Bright said the greatest girth of any patient he had ever known was 72 inches: in this it was 77! On making the longitudinal incision, the knife was followed by a considerable quantity of clear, straw-coloured, oleaginous fluid, and which, on minute inspection, trickled down from the fatty surface for some time after the section had been made. Dr. Smith particularly directed my attention to the light fawnish-red colour of the muscular tissue, and to the extreme coarseness of its texture; also the unnatural flabbiness of that tissue. All writers on obesity have noticed the paleness and softened condition of the muscles. It is owing to this change that their contractile power is diminished, and why very fat persons are not strong in proportion to their entire volume: again, in some measure to the same cause is attributable why the obese ever complain of shortness of breathing and palpitation. Those who have written treatises on diseases of the heart, have noticed that its fatty degeneration is sure to give rise to dilatation of its cavities, resulting from diminution of muscular tonicity. When the muscular fibrillæ morbidly assume the fatty change, impediment must be given to their functions, not only by increase of volume preventing their perfect apposition and co-operation, but from their less resistive power, and to the obstruction such gives to the proper capillary influx of their normal and only stimulus (Le Gallois, Wilson Philip, and others)—arterial blood. Therefore, such resistive power being diminished, longitudinal extension results: hence is a cause of parietal dilatation of this organ, and in an exact ratio with the sum of such dilatation, is a greater inpouring of blood into the cavities, and the subsequent increase of organic power required to efficiently and continuously empty the cavities, and propel the enlarged volume of blood into the great vessels; therefore it is incontrovertible that loss of muscular contractile tone in hollow organs from this, as any other cause, must be succeeded by caviteal expansion. There is another way giving rise to similar pathological results that may here be incidentally mentioned: where muscular fibrillæ themselves are not the prime causation by morbid conversion into another, and anormal substance, as in the adipose degeneration. This is by a loss of nervous influence, when the lesion is primarily located in one of the nervous systems especially in the motor, properly so called, which is well illustrated in instances of paralysis, where the bladder becomes preternaturally distended; in chronic atony of the uterus; and, according to Abercrombie, in ileus, which that philosophic physician contended was the prime cause of obstruction in the case of ileus. In the examination of this organ, in the above inspection, when it was laid on the table, by its softened condition, its formative consistence was so far lost, that it collapsed upon itself, and assumed a placental-shaped mass. Respecting the hypertrophied state of the walls, their thickening was to be anticipated, not only because there was a general hypertrophy of all the tissues, but also on physiological grounds, because, wherever there is a gradual demand for increased functional action in an organ or organs, enlargement of structure is commensurately necessary, in order to meet that demand resulting from excess of action in such organ or organs; and, of all other tissues, this more particularly applies to the muscular. Sometimes in obese subjects the heart has lacerated,—a circumstance noticed by Dr. Williams, who cites an example of the kind from M. Bertin, and relates the fact of the late Dr. Higgins, of Dublin, the discoverer of equivalents in chemistry, who died from this cause. "We have seen the heart," says the author of the article on this disease in the Cyclopædia of Practical Medicine—"we have seen the heart more than half covered with fat; the adipose tissue of the base and surface having encroached on the muscular fibres, so that at the base and along a greater part of the wall of the right ventricle, and at the septum of the ventricles, these fibres only formed a thin stratum irregularly terminating in the adipose tissue. Laennec describes this state of the heart, and says that the fatter the heart is, the thinner in general are its walls; and, on cutting into them, the scalpel seems to reach the cavity without encountering almost any muscular substance, the columnæ carneæ appearing merely as if bound together by the internal lining membrane.'" The organ in this case was not thinner in the manner described by Laennec; yet still, from having acquired such large dimensions, and the muscles pale and flabby, the additional power required to expel the large volume of blood contained in its ventricles, such an event as rupture might not have been an improbable result. The liver, we see, was from one-third to one half larger than normal, and its substance had assumed that light fatty complexion, which is familiar to the morbid anatomist, as being met with not merely in cases of obesity, but in instances when that organ is the chief lesion. I have often seen the same change in the parenchymatous structure of this organ, in autopsies made in the pathological theatre of the Edinburgh hospitals, and in most of these instances, such was in the bodies of confirmed dram-drinkers. The appearance of the spleen, its considerable congestion, the semi-diffluent consistency and other pathological conditions might have been expected where there was enlargement of the hepatic viscus; and, although it has been my lot to make a considerable number of autopsies, yet in no instance do I remember congested liver, without congested spleen. All writers on splenic affections have insisted upon the great sympathy which there is between these organs. The spleen may be much beyond its proper size, without almost attracting the notice of the practitioner during life; its mere congestion giving rise to no sympathetic disturbance. The granular degeneration of the kidneys had progressed to a decidedly greater change than might have been anticipated from the comparatively insignificant amount of albumen discovered in the urine; and I have often known far more functional disorder associated with less structural change. If fat be formed by a secretory process from the blood; and as we know that hydrogen is its chief elementary constituent, it follows when, from whatever cause, there is an anormal increase of hydrogen in the body, that the preternatural accumulation of fat must be produced, because there are no emunctorial set of organs sufficiently active to carry it off in a due degree: unlike what is the case when carbon is too abundantly generated, when the lungs form an outlet; or where azote is too greatly formed, when increase of action in the kidneys averts those evils that might otherwise accrue in the system. The three great excernent functions—viz. those carried on by the lungs, liver, and kidneys, undoubtedly are highly dependent upon the perfect action of each other in preserving a natural condition of the blood, that is a proper proportion of its constituents, so indispensable in the reparation of the tissues; and when there is excess or deficiency of one of the main elements entering into the formation of these (carbon, hydrogen, and azote), the balance of function in secretion is maintained by the other two; but with regard to hydrogen, it appears the deposition of fat relieves the blood of hydrogenous excess: thus, presuming upon disorder in these secernent actions, the kidneys might be inordinately exercised, and thus structural change the consequence, because whenever there is disorder in the circulatory function, the kidneys are of all other organs most likely to become in one way or other affected in such change. The small size of the uterus and ovaries is quite in accordance with what has already been advanced respecting the influence of the generative organs in the obese; that is, that their frequent exercise being, from the irritation produced in the system, opposed to the obese diathesis, that obesity is most likely to come on when sexual irritation is on the decline, and thus the removal of the testes and ovaria, by the repose which is given to the system, inclines to the deposition of fat.

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* In these cases the system no doubt absorbs, in a morbid manner, hydrogen from the atmosphere.

From what has been advanced in this paper it is evident that these views incline to the humoral pathology,—a doctrine which is daily becoming more established; and if we are to regard the formation of inordinate deposition of fat, as I have humbly endeavoured to show by the foregoing statements, it is manifest that the lesion principally exists in the blood, and to redress the abnormal production of hydrogenous matter is the only rational mode of procedure.* It follows, then, that a dietetic treatment is far more likely to be of service than any medicinal agents given with this primary view. Food in sparing quantity is eminently indicated, and to consist of those articles which are generally allowed as not being nutritious, such as slops, fish, biscuits, green vegetables, acidulated drinks, &c. Exercise should be particularly insisted upon, and taken in moderate but continuous degree; warm baths to keep in action the sudoriparous organs; the frequent use of saline aperients combined with mild diuretics; and in the florid, who are of high vascular temperament, small and repeated abstraction of blood is beneficial, but heroic venesection would not answer, as sudden depletion would endanger the supervention of anasarca. Dr. Bright recommended the hydriodate of potash, from a supposition that it gave a tone to the absorbents, and thus might tend to remove the deposition of fat. Alkaline preparations have long been recommended, such as aqua calcis, liq. potassæ, to neutralize the fat, and with this view soap was given by the older physicians. The decoction of guaiacum was employed by a Dr. Fleming nearly a century ago, and the same physician speaks of the advantageous use of vinegar. The manner in which a continuance of either acids or alkalies acts is doubtless in a great measure by disordering the digestive organs, and thus depriving the system of its proper supply of healthy chyle. The Egyptians had their ars pinguis faciendi and their ars attenuandi, the latter of which is supposed to have been promoted by acid preparations.

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* In the discussion which ensued on reading this paper, one member of the Society observed, that as the true theory appeared to show, in these cases, excess of hydrogen was undoubtedly the fundamental cause, such suggested that it might be well to try the effect of causing oxygen gas to be given off in an apartment which would, of course, give rise to an increase of deoxidation in the system, and thus *consume* a greater quantity of hydrogen. Would chlorine produce any beneficial effect?

P.S. Incidentally speaking of this disease to a gentleman, some days ago, he related a case in point, and has favoured me with a brief outline of the particulars, which are given in the following letter:—

6, St. Ann's Terrace, St. John's Wood,
3d March, 1849.

My dear Sir,—If the following case of obesity after amputation will be of service, I shall be most happy. Mr. B., a gentleman holding a very responsible situation in the War-office, of about 25 years old, about five feet eight inches, fair complexion, of active habits, slim made, had accepted an invitation to dine with some friends: the evening turned out very wet when he joined them, but a severe frost succeeded, and on quitting the house he fell on the first step, and, as he said, hurt his right knee, but thought nothing of it for a few days, when he complained of pain on pressure; and a slight blush of inflammation was evident on the inside of the patella. I recommended leeches and fomentations, which he ridiculed, and insisted in using some common liniment: in a few days after this, His Royal Highness the late Duke of York noticed his lameness, and being a great favourite of his, sent for Sir Astley (then Mr.) Cooper, and requested him to give every attention to the case. Active treatment was then pursued, leeching, cold applications, blisters, perfect rest, and every means to reduce inflammation, and prevent periosteal deposit: the disease, however, progressed. He became thin and emaciated, and apprehensions were entertained of his becoming hectic, when amputation was decided on, and Sir Astley begged him to accept a private room at St. Thomas's, where the limb was removed by the circular incision: the recovery was most rapid, and in six weeks he was once more at the War-office. At the end of six months he had quite recovered the effect of his previous suffering, and that consequent on the operation. It then struck me he was much disposed to become fatter in his person; but knowing he was very moderate in his habits I had no fear as to the result, judging the want of his usual active habits had produced it; that he had reached the maximum, and with care and abstemiousness a proper standard of health would follow. This, I regret to say, was not the case: he increased in size, *I might say daily;* being aware of it, and having a great horror of becoming obese, he placed himself under the strictest regimen possible. His breakfast comprised a single slice of toasted bread (dry), and a small cup of tea; at one o'clock a glass of sherry, with *part of a biscuit;* his dinner, a mutton-chop and a wine-glass of water, *no beer, no wine,* and using as much exercise as his loss of limb would permit. He continued with all this care and attention to increase in size and weight; and when I left England, in 1814, the obesity was most painful to look on. On my return, at the expiration of twenty years, so many changes had taken place, I could learn nothing of my friend; and the only conclusion I could come to was that he had died from its effects on the circulation. It was a melancholy case of a man dying, you might say, from excessive health. I fear this sketch will be of little use to you, but I have given it as far as recollection will serve; and should it tend to throw light on the treatment to be pursued in obviating so distressing a disease, I shall, indeed, be most happy.—I am, my dear sir,

Yours very truly,
H. A. Hawkins.

To Dr. Wardell.

Mr. Hawkins said, when he gave me the above letter, that the case must have terminated fatally, as the obesity was so enormous when he last saw the patient that it could scarcely fail to produce death. It is rather remarkable that the corpulency should not manifest itself before the amputation. Had the imposed quietude previous to the operation developed the predisposition to the formation of fat, so that as soon as the system was freed from the irritative influence of the affected joint, the morbid action rapidly ensued? It is not unfrequent when a carious limb has been removed that the individual afterwards becomes exceedingly stout. In 1841, I assisted in removing the inferior extremity of a young man, who had caries of the knee joint, which had been of so long standing as eleven years. At the time of the operation he was so attenuated as to weigh not more than from seven to eight stones: in less than two years he weighed almost double that weight.

27, Acacia Road, Regent's Park.

ON EXCISION OF THE CLAVICLE.

By H. G. Potter, F.L.S.,

Surgeon to the Newcastle-upon-Tyne Infirmary.

Agnes Thompson, ætat. 42, married, and the mother of several children, became a patient of the Newcastle-upon-Tyne Infirmary, Sept. 21, 1848.

She states that her health was very good until about ten months ago, when she was much debilitated by continued night-watching in consequence of illness in her family. She then felt, for the first time, rheumatic pains in the left arm, but did not notice any enlargement of the clavicle until between three and four months afterwards, when she perceived a small firm swelling about the middle of the bone, which she supposed to have been produced by coming sometimes in contact with the bed-post, during her attendance upon her sick family. From that time the tumor has gradually increased in size, attended with lancinating pain, which is always worse at night, and prevents her from sleeping. The pain now extends down the arm, and has so impaired the use of the limb that she is unable to perform her household duties. This pain, and consequent loss of sleep, have greatly injured her health, and she has now a very cachectic appearance.

The middle portion of the left clavicle is much enlarged, and painful to the touch,—it has a firm and inelastic feel; about an inch at each extremity is free from swelling. There is no evidence of any syphilitic taint in the system, nor does it appear that there is any hereditary tendency to disease in the family. Liniments and various other remedies have been tried without any good effect.

Leeches, and the internal use of iodide of potassium, were now tried, but no improvement took place; and, on the 31st of October, the tumor seemed even larger than it was a month before: it was also more painful.

Fearing that the disease might be malignant, and finding that the patient's health was daily becoming more impaired, I determined to remove the bone without further loss of time. The following operation was therefore performed:—

An incision, commencing at the sternal end of the clavicle, was continued throughout the entire length of the bone. Two other incisions were next made at right angles to the first, at about an inch from each end, and the flaps carefully dissected back. An aneurismal needle, armed with a stout thread, made fast to the eye of a fine chain-saw, was now passed beneath the clavicle, at about half an inch from its sternal end; and the saw by this means introduced below the bone, which was then sawn through. Inarticulation of the acromial end was next effected, and a loop of string fastened to the bone, so as to raise it up while the remaining portion was separated from its attachments.

No vessel of consequence was wounded, and no ligature was required. On examining the bone after removal, the disease was found to be caries, which had extensively affected the under surface. It was also found that the whole of the diseased portion had been taken away, and it was therefore not deemed necessary to remove any more. About half an inch of the sternal end was left attached to the sternum.

No pain was felt during the operation, chloroform having been administered with perfect success.

The lips of the wound were brought together with sutures and straps of plaster, over which, lint dipped in cold water, and a bandage, were applied. The arm was also properly secured to the side.

On the following day (Nov. 1) she

felt "much less pain than she had felt for a long time previous." No unfavourable symptom occurred during the healing of the wound. Union by the first intention took place at the ends of the incisions, but every other part healed by granulation.

She left the Infirmary in about a month, and was desired to use her arm as much as she could. A mechanical contrivance to prevent the shoulder from falling forward was tried, but she soon threw it aside, and a gradual improvement in the use of the arm took place.

She is now (March 15, 1849) in a condition to go through her household duties, and feels her arm becoming every day stronger. There is no sinking of the shoulder, and, except when closely examined, no appearance of disfigurement. In this operation great care was taken to do the least possible injury to the costo-coracoid ligament and deep layer of cervical fascia, so that a basis was left for the firm semi-tendinous band which now occupies the place of the clavicle.

CONTRIBUTIONS
TO THE
PATHOLOGY OF THE SKIN.

By T. H. Burgess, M.D.,

Translator of Cazenave's Manual of Diseases of the Skin.

[Continued from page 416.]

No. III.

THE NEUROSES OF THE SKIN.

HYPERÆSTHESIA.

Lichen—Prurigo.

The papular eruptions of Willan, which Alibert very properly reduced to the single genus prurigo, are, I feel convinced, true *neuroses* of the skin. No doubt the sebaceous glands, hair follicles, and sweat ducts may become finally involved, but the lesions of those structures are *secondary*; the primary disorder, so far as the skin is concerned, residing in the *cutaneous nerves*, which, in its turn, is often the result of sympathy with a disordered condition of one or other of the mucous surfaces.

A variety of the dry form of chronic *eczema* is very commonly indeed mistaken for the papular disease, and treated accordingly; hence, in great measure, the difficulty so generally complained of, of arresting the progress of that troublesome complaint. Eczema being a purely inflammatory lesion involving the whole structure of the cutis, must necessarily demand a different method of treatment to a disease which is not the result of inflammation, and in which only one of the tissues (the nervous) comprising the cutaneous envelope is mainly and primarily implicated. In accordance with this view of the elementary nature of the papular diseases of the skin, I have been lately in the habit of prescribing strychnia and phosphorus in those distressing cases of prurigo which reduce the unhappy patient to the most abject state of human suffering, and too often baffle the usual methods of treatment prescribed in works on cutaneous pathology. In several cases of this kind, and after the acids, alkalies, and arsenic internally, and hydrocyanic and acetic acids in the form of lotion, had utterly failed to subdue the unceasing pruritus, I have found the phosphorated ether to succeed, given internally and preceded for a day or two by repeated doses of the tincture of hyoscyamus.

In the prurigo of old age, I have also seen it succeed in allaying the tormenting itching and tingling, after the usual remedies had failed. Can it be a revivifying effect which phosphorus produces on the nervous centres that causes this alleviation of the pruritus? As the proportion of phosphorus in the young and healthy human brain is considerable, being from eight to eighteen parts in one thousand of the whole mass, or from one-twentieth to one-thirtieth of the whole solid matter; and as it is unusually deficient in idiots and in extreme old age, the loss of so necessary an ingredient of the nervous mass may occasion the irritation in the peripheral nerves which constitutes prurigo senilis. This is evidently a lesion of innervation, associated with decrepitude, and a sure indication of the gradual disintegration of those structures and functions through whose combined agency the process of life is carried on.

But why should there not be neuroses of the organ of touch, or of the skin, as well as the organs of sight, hearing, smell, and taste? It is not because the "hallucinations of the sense of touch," as the French pathologists call those morbid conditions of the skin which come under the heads of *hyperæsthesia* and *anæsthesia*, are so difficult of explanation, that we are to deny their existence. There is no doubt but several of those cutaneous disorders which we have been accustomed to regard as the result of inflammation, in consequence of placing an undue reliance on their *secondary* products, as a means of diagnosis, are in reality lesions of the cutaneous nerves, producing exaltation, or other modification in the sensibility of the skin.

A young woman, aged 26, placed herself under my care suffering from a distressing pruritus, which tormented her day and night. She had been afflicted with the disease nine months previously, and for three or four months at a time she could not sleep in her bed, being obliged to pass the night on the sofa with her clothes on, from which she was frequently obliged to rise and walk about the room to seek relief from the itching. The disease was situated principally on the lower extremities, whence it extended to the pudendum. It appeared in paroxysms which were in general preceded by a tingling sensation in the parts. There was no eruption or lesion of any kind to be seen on the skin between the paroxysms, except those produced by the finger-nails during the attack, in the attempts to get momentary relief. The patient could not resist the desire to scratch the parts until the skin became lacerated, although fully aware that by so doing she only aggravated the evil, and rendered the parts so painfully sensitive that she could not bear her clothes to touch them.

This patient had been treated at different times during the period she was suffering from the disease, for stomach complaint, disorder of the womb, and nettle-rash, which were indifferently supposed to have been the causes of the cutaneous affection. There was little or no relief obtained from the treatment pursued, and in one instance an aggravation of all the symptoms was occasioned by the application of Fuller's earth to the diseased surface. I prescribed the mineral acids, alkalies, with occasional doses of morphia, with, however, only temporary benefit. Seeing that the disease was decidedly paroxysmal, and that there were intervals distinctly marked between the exacerbations, when there was no pain and nothing to be seen but the scratches before mentioned; and not being aware of any *inflammatory* lesion presenting those characters, I treated the disease as neuralgia involving the peripheral nerves, and accordingly prescribed strychnia,—the sixth part of a grain twice a day to begin with, which was soon increased to one-fourth of a grain. The patient, at the commencement of the treatment, took occasional doses of the tincture of henbane, but no external agents were had recourse to, further than the ordinary measures of cleanliness. In the course of three or four weeks this patient was so far improved in her health that she could sleep soundly, and in her bed, relish and digest her food well, and perform the ordinary avocations without being interrupted by her old and tormenting disease.

The following case occurred in the Hospital of St. Louis, under the care of M. Cazenave, and will serve to support my view:—

A. M. entered the Hospital of St.-Louis on the 7th of February, suffering from a papular affection of the skin, accompanied by severe itching. He was a native of Bordeaux, and was treated in that city for a syphilitic complaint, of which the cutaneous affection was supposed to be the result, although one of the leading characters of the *syphilides* is that they are never accompanied by pruritus. On admission, the sensibility of the cutaneous envelope, with the exception of that part covering the head and feet, was very acute. In the lumbar region it was actual pain. The lower extremities were the parts which suffered most, and the disease would pass with remarkable facility from one limb to another, or abandon those regions altogether, and suddenly appear on the back, chest, and shoulders. The characters of the disease were liable to capricious change. The exalted sensibility and pain were not continuous, but appeared in the form of exacerbations or paroxysms, in the following manner:—

During certain intervals neither pain, itching, nor any appreciable lesion could be detected. Then, all of a sudden, and without any apparent cause, a sensation of burning heat was developed in the skin along the inner aspect of the thighs, on the chest, shoulders, &c. At the commencement of the attack, the sensation in the skin is either that of burning, or like the peculiar smarting of a recent wound; but it invariably terminated in acute pain. When the hand was applied firmly to the morbid surface, the pain was at once appeased; on the contrary when the skin was only slightly touched it became intense; and when the hairs were merely rubbed backwards, or against the grain, the sensibility became so exaggerated that cramps and spasmodic contractions of the limb ensued. The simple contact of the wearing apparel became insupportable. The patient was obliged to avoid carefully the use of flannel, and to abstain from all exercise or excitement of any kind. The return of the attack was not always regular, but generally it commenced in the evening and lasted during the first half of the night; the pain then ceased, and the patient was enabled to sleep until morning. Shortly after getting up, however, it would again appear, and continue for several hours, then subside as before. Some days the paroxysms were much milder.

The appearance of the skin was not in accordance with the intensity of the malady; for although the patient described a kind of eruption resembling urticaria as having manifested itself during the early period of his complaint, nothing could now be seen on any part of the skin, except a few pimples of lichen on the lower extremities, but they were so few in number that their presence did not explain the remarkable state of nervous exaltation in the cutaneous envelope generally. But the skin was not the only structure whose sensibility was thus excited. The mucous membrane, in several places, was singularly affected. That of the nasal fossæ was disagreeably excited by certain odours, especially those of vinegar, acids, cheese, &c. The taste of salt in the mouth produced actual spasm, and the mucous membrane of the stomach was easily irritated by different kinds of food. M. Cazenave considered the disease to be purely nervous, and proposed to treat it by administering quinine as an antiperiodic, in the first instance, and subsequently the preparations of arsenic. Cephalalgia, vertigo, loss of appetite, followed the administration of the quinine, which soon subsided, however; but although this remedy was persisted in for ten days it produced little or no amelioration of the symptoms of the disease. It was consequently suspended, and Pearson's solution of arsenic prescribed. Although the arsenic was given in very small doses, so great was the morbid sensibility of the gastric mucous membrane, the patient complained next day of a painful burning sensation along the œsophagus, down to the stomach. The medicine was at once suspended, and recommenced in a day or two, after which it was borne much easier. Under this treatment the symptoms were gradually subsiding, when the patient was obliged to leave the hospital.

This well-marked case of hyperæsthesia of the skin goes to support the view I have taken of the pathology of the prurigenous affections. Indeed, as I have already observed, I feel convinced, from repeated observation of those cases, that the commonly received papular eruptions of the skin are merely accessory conditions or symptoms of true neuroses of that structure; the turgescence of the papillæ, and the structural alterations involved in it, being merely secondary lesions.

12, Half Moon Street, Piccadilly.
April 1849.

MERCURY IN SYPHILIS.

Recent clinical lectures in the hospital, announce that the experience of its wards tends to disparage the necessity or general advantage of mercurial medication, so much urged by some older surgeons. It has always, however, been allowed in particular cases; and it may be merely observed, that the exceptional instances of its use have encouraged the opinion of the writer, received from other authority, of the propriety of the cautious employment of mercury in syphilitic disease. Hydrarg. iodid. appears to be perhaps the best preparation for the purpose. The surgeons are in the habit of directing it especially in cases of obstinate chancre, or where irreducible phymosis prevents local means. Upon these, especially through cauterization with argent. nitrat., they usually rely.—*American Journal of Medical Sciences*, January, 1849.

MEDICAL GAZETTE.

FRIDAY, APRIL 6, 1849.

We have now before us a statistical table of great interest in reference to the mortality of the metropolitan population. It is a summary of the returns from 1838 to 1848,—including, therefore, the long period of eleven years; and the concise and convenient form in which it is drawn up, is creditable to the authorities of the General Register Office. This document is valuable for reference, not merely to the medical philosopher, but to the medical practitioner. In it, each will perceive at a glance the remarkable fluctuations to which certain diseases are subject; and the relative numbers of the population, of both sexes and of different ages, that have been annually cut off by them. We can here refer only to a few of the more prominent facts which this table brings before us. The first is, the further confirmation of the common opinion respecting the greater value of female life. In 1841 the population consisted of—

Males	912,001
Females . . .	1,036,368
	1,948,369

There is no doubt that the number of females living, compared to males, has gone on progressively increasing. In the returns for each year of the eleven, we find that, although the excess of population is on the female side, the excess of deaths is among males. Thus in the last return for 1848, there were of deaths:

Males	29,329
Females	28,299
	57,628

Unfortunately there are not the materials in this or any published documents to enable us to carry our calculations further, and show to what special diseases the deaths of males and females are respectively to be attributed.

In reference to *age*, the deaths follow, as nearly as we can judge, a proportion represented by the relative numbers living at the different periods. The mortality is greatest under 15 years, least above 60, and occupies an intermediate point between these ages. In round numbers, for every 21 deaths under 15 years there are 9 deaths above 60, and 15 deaths between these ages. In 1844, 1847, and 1848, the infantile deaths bore an undue proportion; but for the last three years, the deaths at all ages have undergone a considerable augmentation. This is probably in part due to the increase of population, the exact figure of which cannot be determined until 1851.

Of the deaths in the respective metropolitan districts, we say nothing, as the results would convey no information unless accompanied by the numbers representing the population of each district.

To the practitioner, the tables showing the annual deaths from the more common special diseases which he is called upon to treat, will prove of great interest. The mortality from *Small-pox* appears to take an undulating line, the maximum point, however, being in the first year of the return (1848), in which, the mortality from this disease was excessive. There were two other years of great fatality, namely, 1844 and 1848. The maximum mortality from *Measles* was observed in 1839 and 1845;—that from *Scarlatina* in 1839, 1844, and 1848,—the deaths from this disease in these years being respectively, 2499,—3029,—and 4756. Since the return has been kept, Scarlatina has not been so fatal in any year as in 1848. The fatal years for *Hooping-*

Cough have been 1838, 1841, and 1846; and for *Typhus Fever*, 1838, 1847, and 1848. The returns for *Diarrhœa*, *Cholera*, *Influenza*, and *Purpura*, are also of interest, as showing that the mortality from these diseases has been for some years on the increase. We subjoin a table representing the deaths from the more important zymotic diseases during the last eleven years.

Causes of death.	1838	1839	1840	1841	1842	1843	1844	1845	1846	1847	1848
Small Pox .	3817	634	1235	1053	360	438	1804	909	257	955	1617
Measles . .	588	2036	1132	973	1293	1442	1182	2318	747	1778	1143
Scarlatina . .	1524	2199	1954	663	1224	1867	3029	1085	928	1433	4756
Hooping Cough	2083	1161	1069	2278	1603	1908	1292	1816	2035	1600	1635
Diarrhœa . .	393	376	452	465	704	831	705	841	2152	1976	1906
Cholera . .	15	36	60	28	118	85	65	43	228	117	647
Influenza . .	63	53	69	220	78	104	134	73	115	1253	659
Purpura . .	9	7	16	12	16	13	21	25	28	80	62
Typhus . .	4078	1819	1262	1151	1174	2083	1696	1301	1796	3184	3569

We are aware that these numbers must be taken with some limitation, since the causes of death are in many instances arbitrarily assigned, without proper or scientific investigation. These defects are inherent to every system of registration. There can be no doubt, however, that the return is sufficiently accurate to give us useful information on the annual progress and mortality of epidemic diseases.

A DOCUMENT which we elsewhere publish,* throws a curious light on the rapid diffusion and mortality caused by the Asiatic cholera in Glasgow; and the conclusions at which the reporter has arrived, show that some hitherto received opinions regarding this disease, are not corroborated by the observations made in that city. The deaths from other diseases besides cholera *increased*, rather than diminished, during the prevalence of the epidemic. Therefore the doctrine that the cholera merely cuts off those who would have died of other diseases, is not invariably true. It is remarkable that, although the deaths from cholera in Glasgow were more numerous in 1848-9 than in 1832, the disease carried off fewer in proportion to the population, the numbers per cent. being 1·06 for the former, to 1·4 for the latter period. Another peculiarity observed on this occasion was, that a much larger proportion of the higher and middle classes of society died from the disease. It appears that in the four months, during which the disease prevailed, nearly 4,000 persons perished! In February, when the disease had reached its height, the daily burials on an average exceeded eighty!' The reporter considers that much of this mortality must be attributed to the influx of starving Irish paupers, whose numbers, it appears, had enormously increased prior to the outbreak. The report is well deserving of notice as a model for similar documents from other cities. We hope before long to have a report on the mortality from this disease in the metropolis, including the proportion of deaths in different districts, and in different classes. It would also be desirable to know the age, sex, occupation, and other circumstances connected with those who have fallen victims to this terrible pestilence.

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* Page 611.

Reviews.

Guy's Hospital Reports. Second Series. Vol. VI. Part I. 8vo. pp. 200. Oct. 1848. London: Highley.

These highly-valuable Reports continue to maintain their well-earned scientific character. They will not fail to extend, far beyond the school whence they emanate, the vast amount of information to be gathered in a great metropolitan hospital. As such opportunities are afforded by no other field than metropolitan hospitals, while we would congratulate the authors of these Reports on the success which they have hitherto achieved, we cannot but express sincere regret that the example they have now so long set, should not have been followed by their brethren connected with the other magnificent institutions with which this city abounds.

The present number contains—

1. An analysis of fifty-four cadaveric inspections of *Fatal Pneumonia*, by Dr. H. M. Hughes. The readers of our journal have had frequent opportunities of becoming acquainted with the eminently practical talents of this gentleman in the elucidation of thoracic disease.

The author's present paper is a sequel to a previous communication in the preceding volume, on the "Location of Pulmonary Phthisis," with reference to the differential diagnosis between the latter and pneumonia. The tabular character of the greater portion of the present communication, precludes us from making more than a bare allusion to it, referring our readers to the paper itself for its valuable contents, which will fully repay perusal. Among the chief points, however, which are dwelt upon, we may enumerate—1st. That pneumonia occurs most frequently between the ages of 20 and 30 years. 2d. That the sexes are equally liable to its attacks. 3d. That while in the greater number the disease was on the right side, yet in the fatal cases the number was equal on both sides. 4th. That the base of the lung was the part affected in the proportion of 125 to 25 cases. 5th. That the average age, in pneumonia of upper lobes, was 37½ years,—of the lower lobes, 34 years. 6th. That gangrene has been very frequent among the cases here tabulated, owing to the low type of disease during the last few years.

2. A case of *Hydatid Disease of the Liver* cured by operation, by Dr. Owen Rees, is full of interest as an example of skilful diagnosis and judicious treatment rewarded by a successful issue.

3. *Ophthalmic Cases*, by John F. France, Esq. Several cases are related bearing upon Valentin's theory of the causes of the movements of the iris, "partly confirming and partly militating against" the views of that physiologist, that the pupil is under the control not only of the ophthalmic nerve, but of fibres from the superior cervical ganglia, conveyed with the ophthalmic nerve to the ciliary ganglion and iris. In a note the author embodies some valuable etymological hints on ophthalmic nomenclature.

4. Observations on *Healthy and Morbid Articular Tissues*, by Mr. Birkett, read before the Physical Society of Guy's Hospital. We cannot give so full an abstract of the contents of this paper as we could desire, but must content ourselves with briefly indicating its chief points. First among these, the author has in view "to deduce from these observations such truths as may induce us to regard this structure as enjoying a more highly vitalized position among the tissues than is at present allowed to it." The constant wear to which articular tissue is exposed, infers a high reproductive power, which it enjoys in common with that extensive class of "extravascular" structures, the epithelia being regarded by the author as analogous to epidermis, or rather, as a peculiar modification of that epithelium which invests the internal surface of the loose fibrous capsule; its nutrition being derived from its nucleated globules, the nutritious fluids passing through a peculiar thin layer next to the bone before reaching the cartilage. Mr. Birkett considers that his views of the nutrition of articular cartilage explain more satisfactorily than hitherto the connection between disease of the cancellated structure of bone and the destruction of the covering cartilage. The destruction he regards as depending chiefly on a diseased state of the capillary vessels below the cartilage, and that it consists in a disintegration with the sub-

sequent conversion of the nuclei of the hyaline substance into fat.

Each morbid or healthy change which is described by the author, is illustrated by a drawing of its microscopical examination; these drawings have been engraved and published with the memoir, thus adding greatly to the intrinsic value of the volume.

5. A case of *Opacity of the Cornea*, by Mr. Wilson, illustrates the beneficial effects of iodine in this form of disease, too often obstinate in yielding to remedies.

6. A case of *Tubercular Disease of the Brain*, by Thomas Salter, Esq., communicated by Dr. Benj. Babington.

7. A paper on the physical conditions affecting the *Distribution of Life in the Sea and the Atmosphere*, and the laws of breathing, by Dr. Thomas Williams. This is a paper of a highly philosophical order, and of such extent, that our space does not permit us to give a fair abstract of it.

8. The *Anatomy of the Ophthalmic Ganglion in the Horse*, by Mr. Alfred Poland. This contribution is accompanied by an engraving of the connections of the ganglion with the third and fifth nerves.

9. The *Second Septenial Report of the Guy's Lying-in Charity*, by Drs. Lever and Oldham. The period embraced by this Report is from 1840 to 1847 inclusive. The large number of 6,608 cases during this time received the benefit of this charity, and afforded abundant opportunities for practical instruction to the obstetric pupils. The Report contains well-constructed tables in illustration of the most important features and occurrences of labour.

10 *On the Alleged Production of Iron and Phosphate of Lime in the Egg during Incubation*, by Dr. Alfred Taylor, F.R.S.

After alluding to the grounds upon which Sir Gilbert Blane asserted the *production* of these elementary bodies in the egg, and briefly reviewing the present state of chemical science with regard to the composition of animal and vegetable structures, Dr. Taylor details a series of experiments performed on eggs before, during, and after incubation, with a view to determine the important question—Whether iron and phosphate of lime exist in larger quantity in the egg after, than before incubation? From these experiments he draws the following conclusions:—

"1st. That the chemical composition of vegetable food is such as readily to account for the introduction of carbon, phosphorus, sulphur, and nitrogen into the animal system, and to render it unnecessary to assume that these elementary principles are products of the animal organism.

"2d. That the fluid parts of the egg contain iron and phosphate of lime in some unknown state of combination *at all periods*.

"3d. That iron and phosphate of lime are contained in the freshly-laid egg, as well as in that which has undergone the process of incubation, *and not in greater proportion at one time than another*.

"4th. That iron is contained in the albumen equally with the yolk.

"5th. That the shell contains no iron, and very slight traces of phosphate of lime."

Dr. Taylor infers from his investigation that there is no creation of elementary matter during incubation, but a marvellous instance of its arrangement into new physical forms.

11. *Select Cases of Strangulated Hernia*, by Mr. Cock. These are selected as examples of obscure and difficult cases, or as remarkable because the patients recovered under circumstances usually attended with a fatal result, and "interesting from the fact that the same principle of treatment was carried out in all, viz. a free exhibition of opium after the operation, and a careful abstinence from the use of purgative medicines during the first few days."

12. *On the Use of Bichloride of Mercury in Hypertrophy and Induration of the Uterus*, by Dr. Oldham.

These observations are limited to two diseases: 1st, engorgement, enlargement, and hardening of the body of the womb, very frequently accompanied with displacement backwards; 2d, that disease of the cervix known as ulceration. Their object is to set before the profession the superior advantage of the bichloride of mercury over the local remedies which have lately been recommended by various writers on uterine diseases. Dr. Oldham doubts the occurrence of retroflexion of the uterus, except as an extremely rare variety of congenital development, not as a usual form of disease. Dr. Oldham also deprecates the use of cauteries to the os and cervix uteri, and enumerates the various evils which he believes in many cases to have originated in their employment. The whole of this paper is of great practical value.

In concluding our notice we may remark, that these Reports still continue to maintain the high character which they have already acquired as a record of professional experience.

Medical Missions: an Address to Students, introductory to a Course of Lectures on this subject. By James Miller, F.R.S.E. F.R.C.S.E., Professor of Surgery in the University of Edinburgh, &c. Post 8vo. pp. 86. Edinburgh: Sutherland and Knox. London: Simpkin, Marshall, and Co. 1849.

Some years ago the Common Council of the city of London voted "a grant of £500 to John Williams, towards the purchase of a missionary ship." This at first might seem a strange vote, and one might ask, what had a mercantile corporation to do with an object so purely religious. The resolution accompanying the grant gave explanation that it was "not as forming a precedent to assist merely religious missions, nor as preferring any sect or party, but to be an extraordinary donation for promoting the great cause of civilization, and the moral improvement of our common species." How far Williams was qualified to carry out this great object, may be learned from his "Narrative of Missionary Enterprise in the South Seas,"—a book of intense interest, concerning which the present Archbishop of Canterbury said "he would sooner be the author of that volume than of most of the library of the Fathers." In many of the scattered groups of the Pacific Ocean, peopled only by savages and cannibals before the visit of that ship, and even in the wild island where the missionary met his tragic end, are now to be found Christian churches and civilized societies. Commerce has been extended, and human happiness increased. Few men have done more, both for the temporal welfare and higher interests of humanity, than the martyr-missionary, John Williams.

We refer to this act of the Common Council of the City of London as a most honourable precedent, and as suggesting sufficient apology for the unusual title of the work before us, and for our referring to matters somewhat different from our ordinary critical notices; for if *mercantile men*, in assisting religious missions, felt that they were promoting the great cause of civilization and the moral improvement of mankind, how much more ought *medical men* to feel interest in missionary objects, seeing that their "noble profession" has to do with the life, and not the mere property, of man; and, through the union of matter and mind, of body and spirit, they are far more directly brought into relation with man's moral and spiritual nature.

But, indeed, neither precedent nor apology are needed in a matter so obviously beneficent as that to which Professor Miller's lecture refers. It is the glory of our profession, that the medical man, in seeking his own advantage, is at the same time doing good to others; and the greater the amount of personal advancement and success, by so much is there also increase of public usefulness. In seeking to do good to others, in this world of sickness and sorrow, happy is he who can minister to the mind diseased, as well as to the body, and who has opportunity of conferring benefits more lasting than the cure of a mere physical disease. If even a heathen writer pronounced "homines ad deos in nullâ re propius accedere, quam salutem hominibus dando," how much more forcible to Christian men is any call to the imitation and following of Him who, when on earth, "went about doing good to the bodies and the souls of men." This is the idea of Medical Missions.

Influenced by such principles, various associations have been formed of late years, both in this country and America, the object of which is to send out missionaries combining knowledge and skill in the healing art, with zeal and aptness to spread scriptural truth and Christian civilization.

"We advocate," says Professor Miller, "no permanent or general conjunction of Medicine and Divinity, as was attempted in the ancient period of conjunction and decline; but only that occasionally Medicine

> shall become the graceful handmaid of Religion. We as little dream of superseding Medicine by Divinity, as of supplanting Divinity by Medicine. As professions, they are distinct; but in some cases and certain circumstances, who can doubt that they can be blended with advantage, reflecting on each other a new and more brilliant lustre?" (pp. 33-34.)

There are at this time about forty medical missionaries in various parts of the world, sent out and supported by associations similar to that which has been formed in the University of Edinburgh. They are in Syria, where the system was first tried; scattered through all Asia; in Polynesia; in Africa; and among the savage tribes of America. As medical men, they find access to communities and families in heathen lands where the mere evangelist is not permitted to enter.

> "In the wilds of the Assyrian mountains, Dr. Asahel Grant, armed with his needle for the removal of cataract, forced mountain passes which the sword could not command; and amidst ferocious warriors, won his way to their homes and their hearts. On account of his professional skill he was enabled to traverse in safety regions heretofore untrodden by civilized man; where inevitable death met the ordinary traveller, and in whose defiles an army would perish in attempting to effect a forcible entrance. In Damascus, while all other Franks were grossly insulted and pelted with stones, Dr. Thomson was allowed to pass unmolested. A missionary of thirty years' standing in India has declared, that, but for the attention he was at some pains to render the sick, he knew not how he could have gained the confidence and ultimately the affection of the natives. Mr. Gerstmann, by the exertion of his medical skill amongst the people at Jerusalem, was the means of bringing large numbers of the Jews to listen again to Christianity, after they had entirely withdrawn themselves, at the command of the Rabbis. In Siam, Dr. Bradley introduced vaccination, and became something more than the Jenner of an empire of four millions. In Ceylon, Dr. Scudder, by his wonderful healings, eclipsed the great idol Corduswammy; and, as in Lystra of old, they sought to worship him as a god. In China progress has been great, and promises almost unlimited increase. In 1820 Dr. Livingston established a small hospital at Macao; in 1827, he was followed by Mr. Colledge; and to both of these British medical missionaries the sick, the maimed, and the blind, resorted in crowds. In 1835, Dr. Parker, from America, settled in Canton, and to him patients of all ranks flocked from all quarters. Other labourers have joined since. Now the applicants for relief are counted by thousands; and, true to the apostolic plan, while they are 'healed of all manner of diseases,' they have also 'the Gospel preached unto them.' So bright is the prospect of success in that vast country, that we find one of the missionaries thus expressing himself: 'I have no hesitation in stating it as my solemn conviction, that as yet no medium of contact, and of bringing the people under the sound of the Gospel, and within the use of other means of grace, can compare with the facilities afforded by medical missionary operations.' Nearer home, the labours of Dr. Kalley, in Madeira, have proved so signally triumphant, as to awaken the fiercest rage of the adversary; and the very expulsion of the missionary and his converts from the island, stands recorded as the measure of his faithfulness and success." (p. 36-37-38.)

From these instances of the actual success of medical missions* it is obvious that no untried experiment is now advocated, and we consider the subject worthy of greater attention than it has yet received. There are difficulties, no doubt, in carrying out so good a design; not the least of which is, to find sufficient agents, with the right heart, as well as head and hands, for the work. But, "in the present crowded and jostled state of the profession at home, where many, with hardest labour and most pinched frugality, scarce save themselves from want" (p. 55), there must be many well-qualified men who would gladly avail themselves of openings for wide and honourable usefulness in this field of labour. And besides, let it be remembered, that

> "To obtain the end of medical missions, it is not in all cases essential that the medical man should be himself the evangelist. The professions may be distinct in representation, while one in operation; the professed evangelist and the professed physician or surgeon working together in different callings, but at the same time, in the same spirit, and towards the same end." (p. 34.)

For further information we must refer to Mr. Miller's lecture, where arguments for medical missions are stated,—objections answered and difficulties explained,—the qualifications for the work described,—reflex advantages to medicine as a science re-counted, — and the whole subject brought especially before students in an eloquent appeal. We have great satisfaction in knowing that men of science and skill, and high professional standing, such as Professor Miller, are taking the lead in this movement; because much judgment and discretion, as well as benevolence and zeal, are needed in planning and executing such undertakings.

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* Other similar facts are referred to in a work entitled "Claims of Missionary Enterprise," by Dr. Macgowan.

We must deny ourselves the pleasure of quoting more largely from the lecture, the perusal of which we recommend as containing matters equally interesting for missionaries abroad or practitioners at home, and which may cheer and solace the minds of some amidst severe and ill-requited labour.

It is a vulgar error, that the study of medicine tends to materialism and infidelity. In every profession there are varieties of individual mind and character, but the names of Haller and Boerhaave, Cheselden and Paré, Sydenham and Stahl, Fotheringham and Hey, Zimmerman and Mason Good, Hope and Abercrombie, with a host of others, distinguished for piety and virtue as well as for genius and science, sufficiently prove the groundlessness of the calumny. By the institution of medical missionary associations, and the public delivery of an address such as the present, which does equal honour to the author's head and heart, additional proof is given of the readiness of the profession to be forward in any good work. We sincerely trust that the praiseworthy objects advocated in Professor Miller's lecture may be widely supported, and crowned with success.

USE OF THE MICROSCOPE.

The microscope appears at present to be effecting changes in our knowledge of nature, no less wonderful than those views which similar instrumental improvements are opening to our senses through the telescope. I know not which extreme in magnitude is most calculated to excite our admiration and our reverence for our common Creator—the contemplation of the estimated 18 millions of telescopic stars in the milky way, or the 40,000 millions of silicious shells of Galionellæ, according to Ehrenberg's calculation, in a single inch of polishing slate! —*Hawkins' Hunterian Oration*, 1849.

Proceedings of Societies.

WESTMINSTER AND LONDON MEDICAL SOCIETIES.

The following cases have been detailed at the late meetings of these Societies:—

Mr. Canton related the following case of

Remarkable disease of the Scrotum.

A gentleman, aged 45, who had always resided in a warm climate, was for several years afflicted with a swelling in the left side of the scrotum, and which had attained, by very gradual enlargement, the size of a small melon; producing no further inconvenience, however, than what arose from its bulk and weight. During its growth it had occasionally been struck by the pommel of a saddle. The tumor was oval, extending to the external abdominal ring, and the spermatic cord was obscurely to be felt behind; the testicle was nowhere to be distinguished; the surface uniform, and the scrotum natural and unadherent; freely handling the tumor produced no pain or uneasy sensation; no impulse was to be felt on coughing; the patient could not call to mind whether the swelling had commenced from above or below; translucency and fluctuation were absent; pressure made at the back, and towards the lower part of the tumor, elicited no pain. A small portion of the anterior surface was found, on careful examination, to be more yielding to the touch than the remaining part, and the sensations experienced were those of softness and elasticity. In consultation with Mr. Hancock, it was agreed that the case was one of long-standing hydrocele, with the tunica vaginalis considerably thickened; and a trochar was consequently passed into the tunic through the fore-part of the tumor, at its least resisting part. There flowed at once through the canula, a thick, unctuous, brown fluid, which was found to coagulate by heat. The size of the tumor remained the same as before the operation. A few days afterwards, a considerable amount of lighter coloured fluid was drawn off, and at the next visit we determined to lay open the sac, and endeavour to promote the formation of granulation by filling up its cavity with lint. I accordingly made an incision, extending from the upper to the lower part, through the cyst, the walls of which were nearly an inch in thickness; the testicle was now seen within, and situated lower down than in ordinary hydroceles, and appeared to be in every respect healthy. The patient suffered much from nausea, sickness, and constitutional irritation. At the expiration of a few days, these symptoms having abated, and the interior of the sac being found in a sloughy state, it was deemed advisable to remove, by the knife, the whole of the disease,—a fear being entertained that otherwise, from the indifferent state of the patient's health, the sloughing might extend, and, in so doing, involve other parts; whilst the low organization of the sac gave little encouragement to the hope of obliteration being effected by granulation, and, at the same time, the patient was urgent in his desire to be speedily free from disease. Under these circumstances I carefully dissected the cyst,—which was almost as consistent as cartilage,—from the fore-part of the spermatic cord, and from around the testicle, so as to leave the latter, which was perfectly healthy, unencumbered, and suspended by the former. No part of the scrotum was removed, and, at the close of the operation, the line of incision made in it was so shortened by corrugation, that the testicle could scarcely be returned to its place through the wound. Healing progressed favourably, and the patient has since remained perfectly free from any inconvenience.

On Protracted Labour induced by the Twisting of the Cord around the Neck of the Child.

Mr. I. B. Brown read a paper on this subject. He observed that amongst the various causes producing protracted labour, obstetric writers had not mentioned the above, and yet it was not at all uncommon, where the cord was twisted round the neck of the child, that it exerted such an amount of traction upon the fundus uteri as to interfere with the regular expulsive efforts. This was easily discovered by the peculiar pains, which were of only half the natural duration, and were "cut short," the head receding after each pain, and the patient complaining that they did her no good. Under this condition the head of the child did not make "the turn" gradually, as usual, from the termination of the first stage of labour to the commencement of the second—*i. e.* that the occiput remained towards the acetabulum, and the face towards the sacro-iliac-synchondrosis. It was of importance in these cases to wait with the patient, because as soon as the placenta was detached from the fundus of the uterus by the repeated partial expulsive efforts, the head would rapidly turn into the hollow of the sacrum, and be expelled in one or two pains, and this sudden evacuation of the uterus rendered hæmorrhage very probable; therefore, the uterus should be grasped externally, and not left till it had expelled the placenta entirely, and was firmly contracted. Mr. Brown observed that an increased length of the cord may obviate any evil from its single coil around the neck, but that in the majority of cases it will be so much shortened by repeated coils around the neck and limbs, as to produce the impediment alluded to. The cause of the contraction is obvious, as it is necessary that the uterus should first throw off the placenta from its fundus before its expulsive energies can be fully exercised on the child: in fact, the traction produced by the cord, through the attached placenta, upon the uterine walls, interferes with the proper diffusion of the contractile efforts.

Several fellows addressed the Society on the subject of this paper. It was admitted generally, that the fact of the cord being round the neck of the child did give rise, in a great majority of cases, to the obstruction mentioned by the author. Some fellows, however, during a long professional career, had not observed it. It was stated again, by others, that this situation of the cord was not the only cause of the prolongation of labour from ineffectual pains, and that, consequently, it was but, at best, an equivocal symptom.

Tumor over the Patella.

Mr. Haynes Walton exhibited a morbid specimen, respecting which he related the following particulars:—The patient, a female aged thirty-nine, applied to him with a tumor situated over the left patella, of which this was a cast. It was moveable, being easily pressed from side to side. The integuments, although much thickened, were not adherent to it. The impression conveyed to his mind was that of a solid growth, both on account of the density, or firmness, and the history she gave, which was, that five years ago it commenced as a very small hard substance, that slipped from side to side whenever it was pressed on; it never became inflamed, and had increased gradually. Within the last few months any pressure occasioned pain. He never suspected it was an enlarged and hardened bursa, but imagined it might be a sarcomatous growth, as these are sometimes met with in this situation. He operated on the 12th inst., and removed the mass now shown. While dissecting at its base, he opened a cavity, which proved to be a large healthy bursa, between it and the patella, and extending much beyond the limits of that bone. The wound had united by the first intention. A section of the tumor displayed a fibrous character.

Mr. Nunn exhibited a cast of the lower part of the leg and foot of a patient suffering from dropsy, dependent upon cardiac disease. The skin of the part was studded with tubercular elevations, from which a great quantity of serum was flowing. The case had been considered as one of a peculiar form of elephantiasis. Mr. Nunn believed that the tubercles were hypertrophied papillæ performing secretory, or rather excretory functions.

Mr. Benjamin Travers, Jun. related a case of

Prolonged Retention of Urine, caused by Permanent Stricture,

in a young man to whom he was summoned for the purpose of giving the bladder some immediate relief. No water had passed, otherwise than by drops, for some days, and the patient was sinking rapidly, from the local distress and bodily exhaustion so produced. The case occurred at St. Thomas's Hospital, in the winter of 1843, Mr. Travers being at that time resident assistant-surgeon. The author thus describes the operation which he performed on that occasion, and its immediate result:—"The patient having been drawn to the foot of his bed, and his chest raised with pillows, I incised the skin in the median line, immediately above the pubic symphysis. I then pushed a straight dropsy trochar and canula into and through the anterior wall of the bladder. On withdrawing the trochar, the first jet of urine went half across the ward floor. The relief was very decisive, but so sudden as nearly to induce fatal collapse." The patient was presently restored by a large dram of gin. At first, the canula was tied into the bladder by tapes, and stoppered. After some days, it was removed, as it no longer hindered the drainage of water by its sides, when the bladder filled. An elastic tube was next introduced, and other plans devised for controlling the constant leakage of the organ, without much success. In about a month, the wound had undergone a contraction, and was fistulous; and as the progress of the case was slow and unsatisfactory, as regarded the stricture, Mr. Green, one of the surgeons of the hospital, now cut down upon the diseased part in perineo, and succeeded in pushing a catheter into the bladder. After this second operation, nothing of importance occurred to retard the recovery and final convalescence of the patient, who left the hospital well in the summer of the same year, 1843. His wounds all healed soundly, and there needed only the careful introduction of a metallic instrument at intervals, to avert the danger of relapse. The author was of opinion that the first operation rescued the patient from impending dissolution, he being at the time cold and insensible, with a thready, irregular pulse. Any proceeding followed by loss of blood must have proved instantaneously fatal, and a case was mentioned where the patient died under such circumstances before the bladder could be relieved by incising the perinæum. Puncture of the bladder was advocated by Ponteau and Thirand, in 1760; and in later times by Hey, Hime, and Abernethy, who all practised the operation with good success. There are many living practitioners who think well of it. The author quoted the evidence of Mr. Cock, of Guy's Hospital, in its favour. That gentleman considers that one object thus attained is the providing an interval of repose (by diversion of the stream of urine) for the diseased urethra, during which, irritation or other diseased action has so far subsided, that the patient has been known to recover perfectly without any more serious interference on the part of the surgeon. The circumstances of the case must always determine the site of the operation; but where it is admissible, and the relief required is only of a temporary kind, the puncture per anum is preferred. This method was adopted in a case published in the *Philosophical Transactions* for the year 1776, which proves that the canula may be withdrawn immediately after the evacuation of the bladder with perfect impunity, and without risk of dangerous extravasation; on that occasion the patient perfectly recovered. The author did not insist upon the universal adoption of puncture in preference to the practice of perinæal incision, whereby the stricture is overcome at the same time that the bladder is relieved; but the latter operation has often been attempted when the patient's condition was not such as to warrant its performance. When there is great exhaustion of vital power, or where the local distress is very urgent, puncture is usually a safer, and therefore a better, mode of proceeding. The author protested against the hazardous and very unscientific practice of forcing an instrument through the substance of an enlarged prostate, where it constitutes an insurmountable barrier to the onward progress of a catheter.

The case gave rise to a very interesting conversation. Mr. Hancock advocated the practice, and stated that he had performed the operation successfully on several occasions by the rectum. The difficulty of maintaining the canula *in situ* was fully recognised, and some instrument, the syphonic action of which should be more complete than any ordinarily employed on these occasions, was thought to be a desideratum where the puncture is made *above* the pubic symphysis.

At the London Society, Mr. Harvey read a paper

On the evil attending Excision of the Tonsils.

He observed that his attention had long been directed to the question of how far chronic enlargement of the tonsils affected the permeability of the Eustachian tube. The result of the examination of nearly a hundred cases had convinced him that the bodies in question had really nothing to do, mechanically, with obstructing that tube. After giving an anatomical description of the tonsils, he proceeded to show that when they became enlarged, it was always downwards and forwards—that is, in the direction of the mouth and of the œsophagus; and that, consequently, the effect upon the mouth of the Eustachian tube was that of dilatation, and not, as had been supposed, of occlusion, to that orifice. The author next enumerated the causes of chronic enlargement of the tonsils, the chief of which were cold, catarrhal affections, deranged digestion, the eruptive fevers, &c. Aphthoid affections were a frequent source of disease in the middle ear. With respect to occlusion of the Eustachian passage, he considered it to exist much less frequently than had been supposed; and in cases where this occlusion did exist, it was not from the enlarged tonsils pressing upon the mouth of the tube, but from thickening, the result of inflammation of the lining membrane. Excision of the tonsils was not, therefore, expedient; indeed, in many cases which he had examined, that proceeding had been attended with enlargement of the follicles of the pharynx, continued heat and thirst, constant desire for deglutition, disturbance of the general health, and impairment of the voice. Enlarged tonsils were more frequently found in females than males; and when enlarged in childhood, generally assumed their natural size at puberty. They appeared to the author to have some intimate sympathy with the sexual organization. The treatment of enlargement of the tonsils consisted of small doses of the bichloride of mercury and colchicum; the latter, with guaiacum, was most efficacious.. He concluded by remarking, that in some cases in which the tonsils had been removed, the hearing, previously intact, had become impaired. He illustrated his remarks with the relation of several cases.

In the discussion which ensued on this paper, it was observed, by Mr. **Headland**, that in all the cases he had seen, in which the tonsils had been excised in children, the patients had departed from their general health. For that reason he had long since discountenanced the operation.

Dr. **Crisp** thought the deafness in these cases was rather the result of congestion than of pressure. He considered that some connexion existed between the tonsils and the generative organs. Tonsils enlarged in a similar way to other glandular organs, and were amenable to the same treatment.

Mr. **Pilcher** agreed with the author, that enlarged tonsils, *per se*, had little to do with the Eustachian passages; the irritation, however, produced by these organs when inflamed, would extend up the Eustachian tube, and deafness might be the result. Any remedies applied for the cure or relief of enlarged tonsils, he considered would be ineffective without the general health was attended to.

Mr. **Harvey** had always found that, when the general health was improved under the use of tonics and mineral acids, and the local application of iodine and other agents, the tonsils usually resumed their normal condition. When very large, occasional scarification was of great service.

The Medical Society of London was occupied, at its sitting on the 26th, by a discussion on the question of the contagion of cholera, and on the use of chloroform. Little was offered for a report.

Mr. **Hird** had seen several cases of retention of urine from spasmodic stricture in which chloroform had been used successfully; also, cases of strangulated hernia.

Mr. **Newth** had employed it with benefit in a case of foreign body in the œsophagus, which resisted the use of the probang.

Mr. **Linnecar** had used it in a case of strangulated inguinal hernia, which resisted all the usual means of treatment, with complete success. Several cases also were mentioned in which it had been employed in preternatural labour.

Dr. **Waller** had used it internally with marked benefit in a case of spasmodic asthma.

Hospital and Infirmary Reports.

KING'S COLLEGE HOSPITAL.

Singular case of Distortion of the Lower Extremity from muscular contraction, simulating Dislocation of the Thigh-bone. By **Warren Fincham**, Esq., late House Surgeon.

A girl, aged 11, was brought to the hospital on the evening of the 29th of June, having injured her left hip. The history of her case was this:—While getting out of a railway carriage on the 23rd, her left leg slipped between the platform and the carriage: on rising, she felt much pain in the hip and leg, but walked about for an hour, and then became too lame to walk any longer. She was taken to a medical man, who could discover nothing particularly amiss; but the pain about the region of the hip, and the lameness, continuing, although she was able to walk at intervals, another surgeon was consulted, who believed that the hip was dislocated, and on the 28th brought her to the hospital to be under the care of Mr.

Ferguson. She was a tall, healthy child. On examining the leg it was found to be an inch and a half longer than the right; the whole limb was turned outwards; there was much flatness over the outside of the hip, and the great trochanter seemed lower and less prominent than the other: there was some fulness on the inner side of the thigh, but the head of the femur could not be felt there, nor were the adductor muscles tense, and there was more motion at the hip than is usual in a case of dislocation. It seemed, however, to present most of the essential features of a case of dislocation of the femur into the foramen ovale. Accordingly, chloroform was given with a view to its reduction. It was noticed that more convulsion than usual was produced by it, especially of the affected limb. When the patient was fully under its influence, Mr. Ferguson raised the limb, and found that the stiffness at the joint had become quite relaxed, and, on comparing it with the other, that it had in every respect regained its symmetry; and this without any extension having been made. But, as she recovered from the effect of the chloroform, it again gradually resumed its unnatural appearance. Chloroform was again given,—the legs again became symmetrical; a thick pad was placed between them, and they were tied together; but as consciousness returned, the injured limb was seen gradually to become elongated and turned outwards. A dose of calomel, and a senna draught with fœtid spirits of ammonia, were ordered.

On the 29th, the limb retained all the appearance of dislocation, and once again became natural under the use of chloroform. The medicine had not acted, and it was found that the bowels had been much confined for some days past. Calomel and colocynth, with senna draughts, were given without effect. On the 1st of July, Mr. Ferguson ordered half a drop of croton oil to be given every four hours: no effect was produced. The patient remained in bed; the leg was not quite so much lengthened, but in other respects appeared the same: *it was watched during sleep, and then retained the same position.*

On the 3d, an injection with turpentine and assafœtida was given, *and this produced copious stools;* and it was now found that the aspect of the limb was becoming more natural.

On the 5th and 6th, she was up and walking in the ward, and on the 8th she left the hospital without pain, and walking quite perfectly.

Remarks.—Few remarks are required on the foregoing case; its nature and its cause are pretty clearly shown by the way in which it terminated. It seems to have been one of those curious muscular affections which in an older person would have been called "hysterical;" arising, however, not from uterine irritation, but from an over-loaded large intestine. What the particular state of system may be in which the nervous centres take cognizance of such irritation, I suppose is still little known; but if this be the right view of the case, it would seem that to have arrived at the age of puberty is not essential. That the left hip alone should be affected, perhaps would arise from the muscular strain or other injury it received at the time of the accident, just as, in so many blood-diseases, a joint or other part, previously weakened, suffers first. This determination of local "hysterical" affections by previous injury is particularly noticed by Sir Benjamin Brodie. It was suggested that the distortion might be caused by the pressure of the loaded bowel upon the sacral nerves, but there does not seem to be any anatomical reason why that one set of nerves should be pressed upon, and their muscles alone paralysed, rather than another set: but it is well known that the nervous centres do make such selection.

I would mention the very exact appearance of dislocation the limb presented, so that every one who saw the case had little doubt of its nature; and lastly, the great benefit derived from the use of chloroform, by which the true nature of the case was shown, and the means of cure suggested.

Spring Gardens, March 27th, 1849.

WIND OF A BALL.

Though a cannon ball, nay, a musket bullet, may just contuse the skin, so that the injury is hardly perceptible, yet sometimes the most alarming, nay, even fatal symptoms follow. Schmucker relates the case of a soldier whose queue was shot away, and who laboured under a state of stupor many days, in defiance of the most active antiphlogistic treatment; and Major King, of the Fusileers, who was killed at New Orleans by a musket bullet striking the pit of his stomach, like the blow of a pugilist, is another illustration of this.

Many who are wounded with either musket or cannon-shot, have their lungs, liver, stomach, or brain so concussed, as to lead to a fatal termination, as in the instance of General Cafferelli, whose arm only was wounded. The way to reconcile to ourselves these distant organs suffering is, that they are more delicate, sensitive, and vascular, *cæteris paribus*, than the other organs, or that they have been diseased for some time previously.

The effect on the brain has been followed by very remarkable states of the memory and language, as related by Larrey, Hennen, and other writers on gun-shot wounds.—*Lizars' Practical Surgery.*

Correspondence.

THE CONTROVERSY RESPECTING THE INVENTION OF THE AIR-TRACTOR. THE CLAIMS OF PROFESSOR SIMPSON AND DR. MITCHELL.

SIR,—In the last number of the GAZETTE there are some animadversions from Dr. Mitchell, on the mode in which I decided the relative values of the prize-exercises of the Midwifery Class of the University of Edinburgh, entrusted to me last session for adjudgment, by Professor Simpson.

By your publishing these and other statements of Dr. Mitchell (refused by other journals), you have given his assertions a degree of notoriety which they do not intrinsically deserve. It can scarcely be credited," says Dr. Mitchell, "that one who had the means of knowing to whom the papers belonged, should have been allowed to indulge his likes and dislikes towards certain of the competitors by his decision upon their papers." Now I had not the means of knowing to whom the papers belonged. The prize-exercises which were written in the class-room were signed by mottoes, not by the names of the writers. I was not acquainted with any of the competitors, neither did I know by name, handwriting, or otherwise, to whom any one of the exercises belonged. In the decision of the order of merit among the competitors, I was engaged for the greater part of three successive days. The successful competitors were indicated merely by their mottoes being written upon sealed envelopes, containing their names, and these sealed envelopes were opened, and the names of the successful competitors thus obtained in the presence of Dr. Mitchell and all the rest of the class, on the last day of the session. I did not know, and no one could have known till then, who were successful and who were not. Dr. Mitchell, of Nottingham, was, it appears, among the latter.

As I have my pen in my hand, allow me to make an observation on another point. Dr. Simpson has published two notices of his air-tractor. (See Monthly Journal of Medical Sciences for February and March, 1849.) In each of these notices, he gives the whole credit of the proposal of such an instrument to Dr. Neil Arnott. In his first paper he quotes Dr. Arnott's own words on the subject in full. Could he do more? You yourself published an extract from Dr. Simpson's paper, containing in it the full quotation from Dr. Arnott's work, in your journal of the 16th March. Knowing, therefore, this fact, it must have been in consequence of an oversight that you admitted into the pages of your last journal (p. 521) a letter from M.D., Leamington, suggesting that Dr. Simpson improperly laid claim to Dr. Arnott's proposal, while your own journal of the previous week showed that this foolish accusation was entirely unfounded.

But, let me add, there is a great and weighty difference between suggesting a thing in theory, and actually working out its application in practice. Thirty or forty years ago, Sir H. Davy suggested that a state of insensibility might be produced for some surgical operations by inhaling some gaseous substances. But was not this a very different matter from Drs. Morton and Jackson practically applying and working out this idea in practice? After the proposal of an Air-Tractor had lain idly before the profession for upwards of twenty years, and no one had applied it, Dr. Simpson took up the idea, worked long in constructing a proper instrument, and ultimately succeeded in applying the principle to practice. Without his having done so, would not Dr. Arnott's idea have remained as yet only a bare and barren suggestion, as Davy's was for a still longer period?—Meantime, I am, sir,

Your obedient servant,

J. M. DUNCAN.

Edinburgh, March 30, 1849.

*** We must here bring this air-tractor controversy to a close. It appears from the correspondence on both sides—1. That Dr. Mitchell, a pupil of Professor Simpson's class in competing for the Midwifery prize in 1847-8, sent in a full description of the air-tractor, with drawings. [Had this fact been made known to Dr. Simpson, he could have laid no claim to the invention of the instrument a year afterwards]. 2. Dr. Simpson did not read the prize papers, but confided this task, as well as the decision on their merits, to Dr. J. M. Duncan, his assistant. 3. Dr. Duncan read the papers, but as the competition was by *mottoes*, he had no means of knowing, except in the cases of the successful candidates, the *names* of the authors. Dr. Mitchell was, it appears, an unsuccessful candidate, and his papers were returned to him with the sealed envelope containing his name, unopened.

It is quite clear, therefore, that, although Dr. Duncan did not know the *name* of the writer, he must have been fully acquainted with the *fact* that an unsuccessful competitor for the midwifery prize in 1847-8, had anticipated Dr. Simpson's invention of the air-tractor in 1848-9; yet when so much was made of this invention as a novelty, he did not even suggest to Dr. Simpson that a member of his class had, only in the previous session, given a description and drawing of the instrument in a prize-exercise which had been rejected. Had he made such a suggestion, it is probable that by a little inquiry the name of the writer would have been discovered, and this controversy about claims and counter-claims would not have arisen. It was quite natural that Dr. Mitchell should suppose that the Professor of Midwifery took some share in judging of the merits of the prize-exercises for which he nominally awarded the prizes; but this it appears was a mistake on his part. The inconvenience of the Midwifery Professor being kept in ignorance of the substance of the papers prior to judgment, is clearly seen in the result:—An unsuccessful competitor may be the real inventor of an instrument, subsequently claimed as original by his teacher. That Dr. Duncan did not know the *name* of the party, is not in our opinion a satisfactory answer: he should have mentioned the fact to Dr. Simpson, and that gentleman would then have been in a position to render justice to an unknown member of his class. If Dr. D. considered the invention unimportant at the time, it had acquired importance by Dr. Simpson's publicly expressed desire to receive some suggestion on the construction of such an instrument, and by his claim subsequently to be the inventor.

We agree with Dr. Duncan, that he *alone discovers who proves*; but the Leamington M.D., of whose letter he complains, claims for Dr. N. Arnott no more than Dr. Simpson concedes. M.D. is desirous that the eminent philosopher who suggested the *principle* of applying atmospheric pressure to aid delivery, should have the full merit of the suggestion.* He did not claim for Dr. Arnott the invention of the air-tractor itself: hence Dr. Duncan's remarks on this part of the case are quite irrelevant.

One word as to ourselves. Dr. Duncan, by using the words "refused by other journals," appears to intimate that we acted wrongly in inserting Dr. Mitchell's correspondence with Dr. Simpson. We know nothing of Dr. Mitchell; but every professional man, high or low, has a right to a public statement of his complaint, provided it be in proper language, and, as in this case, borne out by facts. The suppression of correspondence, merely because it comes from one barely known, and happens to affect gentlemen of high standing in the profession, would be most unfair, and quite contrary to our practice. What reasons the Editor of the *Medical Times* may have had in refusing insertion to Dr. Mitchell's letters we do not know; but by referring to the *Lancet* of March 31 (p. 349), Dr. Duncan will find that by this insinuation he has not done full justice to the Editor of that journal; for, in stating the facts, the reason there assigned for the non-insertion is, that it was unnecessary, because the letters had already appeared in our own journal. Had Dr. Mitchell claimed to be the inventor of an obstetric instrument, the construction of which had been explained and shown by Dr. Simpson to his class, of which Dr. M. was a pupil, we should have equally opened our pages to a remonstrance on the part of Dr. Simpson or Dr. Duncan. The refusal or suppression of correspondence, under such circumstances, would have been denounced as most unjust.

STATISTICS OF THE CHOLERA AT LISBURN —ITS PROPAGATION BY CONTAGION.

SIR,—I beg to forward the following remarks relative to the progress of epidemic cholera at Lisburn:—

From its first appearance, on the 24th January, till now (March 29) 223 cases have been reported: of these, 125 recovered, 75 died, and 23 remain under treatment. For three weeks after the first two or three cases the disease made little progress; but suddenly after that it broke out with fearful malignity, and owing to the poor not feeling the importance of early attention to its premonitory symptoms, and not thinking it cholera until they were in collapse, nearly all the first cases proved fatal. The Board of Health issued placards warning the public of the approach of the pestilence, directing what to use and what to avoid; also stating that no one need be afraid to afford every assistance in their power to their neighbours, as the disease was not contagious; and also recommending the treatment of the affected in their own houses, or in hospitals among other patients. To carry out the latter part of their recommendation, many of the cholera cases were removed to the Workhouse Fever Hospital, where cholera had not previously existed, but in which it has from that period till now proved highly fatal to the fever patients, the greater number of whom have been seized either prior to or during convalescence, and, with one exception, all carried off. A few weeks ago, four patients, members of one family, labouring under maculated typhus fever, were admitted into the Fever Hospital: three were seized with cholera, and died. Six of another family were received: two have died of cholera, and the remainder still exposed perhaps sink under a disease which did not exist in the locality from which they came. A few more instances, from among many, I will here mention, which, I think, if they do not show the disease to be contagious, will at least prove that separate hospitals should have been provided for the treatment of cholera patients, and that none but the immediate attendants ought to be with the sick.

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* In this letter at page 521, by a typographical error, the u and a in the Latin quotation are misplaced. It should be "Palmam qui meruit ferat."

A woman was dying of cholera, some of her neighbours visited her, one of whom assisted in dressing and laying out the dead body, when the attendants thought the woman was dead: this person was applying a roller to keep the mouth closed, when a slight motion of the muscles of the face being observed she was frightened, went home, became ill of cholera, and died in a few hours; the sister who attended her was also taken ill and died, as did several of their relatives: several persons who were in the house where the first woman alluded to died, took the disease.

A man was returning from Belfast, where cholera was very prevalent, when he became ill, and had a severe attack; he, however, recovered. One of his children was seized and died; another, and it died; his servant afterwards, and she died: thus showing that where one member of a family has been attacked, it generally and successively attacks several others, chiefly where cleanliness, ventilation, and the separation of the healthy from the diseased, have not been strictly enforced, which, unfortunately, in the overcrowded, and too often filthy, dwellings of the poor are impracticable.

Too much credit cannot be given to those who are exerting themselves to carry out sanitary arrangements, and create a better taste for cleanliness among the lower classes, but it is a great mistake to imagine that because cholera prevails to a greater extent in localities where filth and poverty abound, frequently in such places only, that these things give rise to it. Such circumstances favour the spread of cholera just as they do of fever; and we find that a second case of fever or cholera is a rare thing in a family where cleanliness and ventilation are good, while both these diseases alike are prevalent where the reverse of this is the case: it therefore appears strange how, or by what process of reasoning, men who believe typhus fever contagious deny the contagiousness of cholera, when both diseases seem to select for their visitation the same kind of places, and for their victims the same kind of people.—I am, sir,

Respectfully yours,
Chirurgus.

Lisburn, March 29, 1849.

UTILITY OF FRIGORIFIC APPLICATIONS IN PITYRIASIS.

Sir,—With reference to Dr. Arnott's proposition of frigorific applications to inflammatory affections of the cuticle, I may state that in two obstinate cases of pityriasis rubra, where all the usual external remedies had proved quite powerless to arrest this extremely troublesome complaint, I found that pounded ice applied to the whole inflamed surface effected a considerable amelioration in a few days, and ultimately a cure in both.

The skin is so irritable in such cases that salt could hardly have been used with the pounded ice, which certainly proved quite efficient *per se*. The first case was treated in June, 1847; the second in November, 1848.—I am, sir,

Yours, &c.
Charles Prentice.

Cheltenham, March 29, 1849.

Medical Intelligence.

STATISTICS OF THE MALIGNANT CHOLERA IN GLASGOW, 1848-9.

At a recent meeting of the Glasgow town council, Dr. Strang, the city chamberlain, presented a report regarding the extent to which cholera has prevailed in the city. From the 14th of Nov. till the 22d of March, when cholera entirely disappeared, the number of deaths was 8,107. Of these, 3,777 were deaths from cholera, being about double the number reported to the Board of Health in London. 4,330 were deaths from all other diseases. The chamberlain accompanies his tables with the following pertinent remarks:—

From the foregoing tables, and the last year's mortality bill, it appears—

1. That from the 14th of November, 1848, to the 31st of December, the burials from cholera amounted to 1,420, and from other diseases 1,436.

2. That during the month of January there were no fewer than 3,100 burials within the various cemeteries of Glasgow, of which there were 1,780 from cholera, and 1,320 from other diseases; and when we compare these with the burials in January, 1848, which amounted to 1,674, we find, in spite of the existence of the then prevailing typhus or famine fever, that the burials in January, 1849, were 1,426 more than in January, 1848. It is, perhaps, almost unnecessary to add that no previous month in the whole history of Glasgow ever exhibited so high a figure of mortality as January, 1849; for assuming the same rate to have continued throughout the whole year, it would have shown an annual mortality for Glasgow of about 36,900, and which to the estimated population would have been as one out of every seven.

3. From the foregoing tables it appears that from the first outbreak of the epidemic

in Glasgow, on the 14th day of November, till the 22d of March, when it may be said to have almost ceased, there have been buried from cholera 3,777, or about 1 06 per cent. of the whole estimated population; and that during the months of January and February, when the disease was at its acme, the gross burials showed a daily average of 80·8.

4. From these tables it also appears that *the deaths from all diseases other than cholera, have increased rather than diminished during the prevalence of this epidemic.* For while the average monthly mortality last year, including typhus and scarlatina, amounted to something less than 1,000, the deaths from diseases other than cholera in January, 1849, were 1,320. This fact goes far to impugn the general belief formerly entertained, that during the prevalence of an epidemic, the deaths from ordinary diseases were far fewer. Dr. Stark, whose mortality bills of Edinburgh are so worthy of attention, has, I understand, been for some time cognizant of this fact. In a note lately addressed to me by that gentleman, he says, when speaking of this subject, "you will be aware that this is against the doctrine taught by all the older writers on diseases, and even so late as 1832, when cholera prevailed, it was again and again asserted that cholera merely cut off those who would have died from other diseases, and that these other diseases were less fatal. Correct statistics correct many old notions." Our present tables certainly support Dr. Stark's views, and, what is more, they tend to confirm another opinion, which I also hold along with that statist, that in Glasgow, as well as in Edinburgh, there is of late a gradually increasing rate of mortality, which may be fairly attributed to the increase of Irish immigration, with its concomitant misery, destitution, and pauperism. To check this growing evil, productive not only of increased death, but of fearfully increased pecuniary burdens among our city population, is absolutely necessary, otherwise Glasgow will become a city of paupers and of the plague. No time must now be lost to ward off from all the great towns in England and Scotland, and particularly from Liverpool and Glasgow, the scourge of wandering and famishing Irish; and the only apparently effective mode of doing so, in the present state of matters, is to apply remedial measures to Ireland itself—to check, in fact, the evil at its source, to oblige that country to find employment for its own people, or bread for those who cannot be employed; and if Ireland, in its present condition, be not able to meet that requisite of all countries—which is not to be credited—then would it be better for England and Scotland to contribute something out of the general Treasury to keep Irish paupers at home, rather than permit them to extend their baneful influence over the, as yet, less degraded pauperism of the British Isles.

Before closing these remarks, it may perhaps be interesting to contrast the effects of the cholera in Glasgow in 1832 with that of 1848-49. It appears that the number of recorded deaths from the epidemic of the former period were 3,005, from the latter 3,777. The population of 1832 may be taken at 203,000, that of 1848 49 at 355,800. The period during which the malady continued in 1832 extended over nine months, that of 1848-49 little more than eighteen weeks. Assuming, then, these data to be correct, it follows that while the cholera of this year carried off more victims than that of 1832, it at the same time carried off *fewer in proportion to the population*, the rate to the population being as follows:—

	Per cent.
In 1832, rate of deaths to population	1·4
In 1848-49, rate of deaths to population	1·06

The effects, however, of the present malady were perhaps more appalling than its predecessor, seeing that the deaths all took place within a very limited period, while at the same time the burials from other diseases were proportionally greater. Another striking peculiarity connected with the present distemper, when contrasted with that of 1832, is to be found in the fact of its attacking a better part of the city, and a *far larger proportion of the higher and middling classes of the community.* On the former occasion the malady was chiefly confined to the lower and more densely-peopled portions of the town, and was generally found among the more destitute of the population. On this occasion, however, it threw a gloom and mourning over the best habitations of the wealthy, and was comparatively careless of the more abject inmates of our crowded hovels. Whether or not the active steps taken by our city authorities and our parochial boards to cleanse and purify the town, coupled with the domiciliary visits of the medical gentlemen, under the able directions of Dr. Sutherland and the Board of Health, may fully and altogether account for the altered circumstances and the more speedy departure of a disease which is still an enigma to those who have studied it most, it is not for me to determine. Sure I am, however, that every honest observer will allow that to the energetic measures pursued both by the civic authorities and the Board of Health, may be fairly attributed much of the mitigation of the malady, and the consequent preservation of life. It is consolatory, however, to think that the pestilence has now, in all human probability, quitted our city, seeing that no burials from cholera have been noted for some days past. Deaths likewise from other causes are daily diminishing, and I am certain it lays claim to no great prophetic power to predict that Glasgow, if freed from the plague of immigrating poverty, and if watched over by those interested in its sanitary improvement, will forthwith exhibit a figure of mortality at once illustrative of its former general healthfulness and its present improved condition.

THE CHOLERA AT LIMERICK.

The Limerick papers contain most gratifying accounts of the subsidence of the pestilence in that city and neighbourhood. On Saturday there were but 29 new cases, of which, however, 21 proved fatal. A week previous the deaths averaged nearly 50 per diem.

THE CHOLERA IN PARIS.

The disease is spreading throughout the city, but the greater number of cases still occur among the inmates of hospitals and infirmaries. It appears that no official returns are made, but *L'Union Médicale*, of the 3d April, informs us that up to the previous day there had occurred 852 cases and 481 deaths. Of this number there were in the Salpêtrière alone, 330 cases and 218 deaths! The in-patients of hospitals have suffered severely on this occasion. Out of 349 cases, 242 occurred among in-patients.

The proportionate mortality is nearly the same in every district, but in the hospital of St. Louis, there were 23 deaths out of 28 cases! Notwithstanding these unfavourable results, the cholera does not spread so rapidly as it did in 1832, and its symptoms appear to have become much modified. On the former occasion, persons died by thousands where the deaths may be now reckoned by hundreds. But while the disease manifests less severity in its attacks, it is equally intractable; and the deaths in any given number of cases, are just as numerous as in 1832. It will be seen that the mortality in the Parisian hospitals, provided with the best and most ample medical assistance, amounts to 50 per cent., the same as that which was observed among the Uralian provinces of the Russian Empire, where indifferent medical attendance could be only sparingly obtained! This fact strikingly confirms the general opinion, that in the advanced stage of the disease, medicine is powerless.

Several nurses in the hospitals have been attacked, and we regret to learn, by the latest intelligence, that Professor Fouquier had been seized with symptoms of the disease.

PUBLIC HEALTH BILL FOR SCOTLAND.

Sir G. Grey has obtained leave to bring in a bill for promoting the public health in Scotland. It was, he observed, unnecessary to state then the nature of the measure, as it was substantially an application of the Public Health Bill for England to the circumstances of Scotland. The Lord Advocate was anxious that the bill should be printed before the recess, in order that the people of Scotland might have the fullest opportunity of considering its contents.

EPIDEMIC IN GUIPUSCOA. THE CLIGNOTTE.

According to a report published in the last number of the *Gazette Médicale*, a new epidemic of a most formidable kind has manifested itself in the mountainous district of Guipuscoa, in Spain. It destroys life so rapidly that the name *Clignotte* (from clin d'œil) has been given to it.

Its first attack is indicated by the appearance of greenish yellow pustules in the ham, fore arm, and nape of the neck. In a few hours these tumors ulcerate, and discharge an acrid matter, containing myriads of microscopic animalcules; this matter irritates every part of the skin over which it flows. In three or four hours the body becomes swollen like a bladder; the sufferings of the patient are of the most severe description; violent fever sets in, and this is speedily followed by death. Putrefaction takes places in a few hours, so that it becomes absolutely necessary to bury the body as soon as possible. In two villages, containing each about 500 inhabitants, no fewer than 122 persons of both sexes, and at all ages, perished from this disease within three days after it had broken out.

The cause of this sudden appearance of the epidemic is not understood. It is said that a similar disease has appeared in Poland. We apprehend that there is much exaggeration in the description given by our French contemporary.

LONDON HOSPITAL.

Account of patients admitted during the last year:—

Accidents, 2,411—extra cases, 449—received during the year without the recommendation of a Governor	2,860
Other In-patients admitted during the year	1,325
Out-patients ditto ditto .	20,614
Total . . .	24,799

ST. GEORGE'S HOSPITAL.—PRESENTATION OF PLATE TO MR. P. HEWETT.

On the 30th ult. the pupils of St. George's Hospital presented Mr. Prescott G. Hewett, the assistant surgeon and lecturer on anatomy to that institution, with a beautifully chased and massive silver salver, as a testimonial of their respect and gratitude for his unremitting exertions in promoting their professional studies. The plate was presented to Mr. Hewett, in the presence of a large number of visitors and leading members of the profession, by a senior pupil, with a most complimentary address, which was acknowledged by Mr. Hewett in a very feeling and appropriate speech.

ROYAL COLLEGE OF SURGEONS.

THE following gentlemen were admitted Members of the College on the 30th ult.:—F. Izod—H. F. Pressanges—T. S. Guppy—S. Payne—T. Annesley—W. Prosy—J. Humphry.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 29th March, 1849.—Frederick Charles Spackman, Bradford, Wilts—George Bullen, Ipswich—Johnson Kaye Baines, Jewry Street, Aldgate—John Sherwood Stocker, Baker Street, Portman Square—John Moore Swain, Long Clawson.

OBITUARY.

ON the 15th ult., at Clapham, Surrey, Walter Yonge, M.D., aged 29, only son of Walter Yonge, Esq., surgeon, of St. Ives, Cornwall.

On the 19th ult., at Ilfracombe, Devon, John Sommers Down, Esq., M.D., aged 65.

M. Serre, Professor of Clinical Surgery in the University of Montpellier, has recently died from an attack of apoplexy in the 49th year of his age.

We have also to record the deaths of Dr. Desir and M. Ernest Boudet. The former was a distinguished pupil of M. Rayer.

On the 1st inst., at Liverpool, aged 30, Edward Dunn, Esq., of Ulverston, surgeon, youngest son of the late John Dunn, Esq., of Durham.

Selections from Journals.

CLINICAL REPORTS, BY DR. FISCHER—SUPERFICIAL TUMOR OF THE ABDOMEN—LOCAL USE OF IODINE.

A STRONG man, 30 years of age, recovering from an attack of typhus, with so voracious an appetite that he could scarcely appease it, found one day unexpectedly, a large hard tumor, extending on the right side from the umbilicus to the groin; it was many inches in circumference, elevated in the centre, and becoming thin towards the edges. Beyond constipation for a day, and trifling decrease of appetite, the patient made no complaints. A surgeon, who was called in at the moment, regarded it as an accumulation of fæces from some organic change in the intestines. The exhibition of castor oil removed the constipation; therefore this supposition was not borne out. Closer investigation detected no discolouration of the integuments; the tumor was not painful, it had appeared suddenly, and remained of the same dimensions. A conjectural diagnosis only could be made. One day the most prominent point of the tumor appeared reddened. The diagnosis was now clear; it was a deposition between the skin and abdominal muscles. A poultice dispelled the redness, and the tumor remained otherwise as before. Tincture of iodine was applied, and in ten days the tumor had disappeared. The patient did not entirely recover his health completely for a long time afterwards.

Iodine in enlarged labia.—A girl, twenty years of age, was suffering under extensive œdematous enlargement of the labia pudendi, the consequence of cold; they were considerably swollen, were several inches in thickness, and prevented her walking. Tincture of iodine was applied, and in eight days the swelling had disappeared.

A man, suffering under *extensive congenital hypertrophy of the skin of the face and extremities*, was, as a consequence of cold, attacked with anasarca. Tincture of iodine was applied to the calves of the legs, and its effects quickly manifested themselves. It required to be much longer continued than in this partial application, to determine its utility in this form of dropsy, which every one knows does not generally bring much credit to medical science, but its cure often brings a rich profit to pretenders.

In *inflamed breasts*, tincture of iodine proved to be so far useful, that the inflamed lobe of the gland was diminished by its application, but the skin became so loose that its employment was discontinued.

Case of chorea.—A severe case of two years' standing proved fatal, but its termination was communicated to Dr. Fischer too late for a post-mortem examination. The patient had tried various medical assistance as usual without relief. Strychnine had a marked beneficial effect, but the patient's indolence interfered with its continued use. Romberg says, that this is a disease of advanced age, and its cause unknown. This man was twenty-four years old, and had brought it on himself by lying down, when heated, to sleep in the open air during a cold night. Thus this case was of a rheumatic character. Eisenman also considers chorea to be of a rheumatic nature; and Mason Good traces its cause frequently to the patient's having slept on the bare ground. Rheumatism certainly plays an important part in the etiology of the neuroses; and undoubtedly Eisenman has thrown much light on this point. Whether its proximate cause be seated in the brain or spinal cord it is difficult to determine, but it is obvious that the controlling power of the will is greatly disordered.

Acute hydrocephalus.— Acute hydrocephalus is a disease more frequently met with than croup on the northern borders of the Thuringian forests: it consists in meningitis, occurring in strumous constitutions. The scrofulous constitution is common enough: but, struma itself, with the exception of strumous ophthalmia, seldom comes under medical treatment as a distinct disease. One of the most frequent causes of hydrocephalus acutus is sudden change of temperature from heated rooms to cold air. Pure encephalitis is very rarely met with. The description of its symptoms is no longer, as formerly, confused: its treatment yields more favourable results than even croup; since while the latter when fully developed is by no means curable, the greater proportion of cases of hydrocephalus are cured. Three cases have lately occurred to Dr. Fischer, in which the appearance of a pustular eruption on the head was followed by entire cure without further medical means. Such natural cure is a safe guide in practice. It was formerly, and still is, the practice to employ external applications—as blisters to the nape of the neck, cantharides ointment, tartar emetic, &c., in the active treatment of this disease; but Dr. F. believes this healing effort of nature is better taken advantage of by ointment of bichloride of mercury. Blistering is apt to produce extensive inflammation of the contiguous skin, which from the intimate vascular connection is liable to augment the internal disease; the antimony is long in producing its effects, and is apt to leave troublesome sores. The sublimate ointment, besides causing mercurial eczema, produces pustules mingled therewith; the inflammation of the skin is not so deep; the external inflammation can be proportioned to the internal, the ointment or plaster being applied at the posterior part of the head, while the spontaneous pustular eruption appears on the anterior parts. The healing of the inflammation is easy. Dr. Fischer has not yet had an opportunity of using this ointment in these cases, but his experience of it in other diseases would give him confidence in its employment. In psoitis rheumatica, in peritonitis, and in severe rheumatic affection of the abdominal muscles, this ointment has been found of great efficacy.

Thymic asthma.—A strong infant, ten months old, suffered under symptoms which, from their description, were those of thymic asthma. Its eldest sister had also suffered from the same. The attacks came on at night. Some weeks after their first appearance, eclampsia came on: the convulsive movements affected the upper more than the lower extremities. Zinc with purgatives was administered. Several weeks afterwards the spasm of the glottis began to alternate with the eclampsia, so that when the former subsided the latter commenced, and continued for several minutes, returning every hour. The spasm of the glottis produced a long-continued whistling, piercing cry, attending the inspiration, followed by a feeble expiration, repeated three or four times in each attack. There was great dyspnœa, a flushed face, arms outstretched for help, head thrown back, one eye larger than the other, and staring. Then came the convulsions, but never coincident with the spasm of the glottis. The child was attacked with scarlatina, which it passed through without any effect on the previous disease. After this, musk seemed to have some beneficial influence.

Romberg states that he considers the opinion which attributes this disease to affection of the nervous centres is not founded on observation. However, the symptoms in this case were evidently cerebral. External irritation of the trifacial and trigeminal nerves will not produce this spasm, which proceeds from some central cause of irritation of the trigemini, vagi, and motores oculi. A frequent cause of this disease is generally considered to be difficult dentition. Dr. Fischer doubts the correctness of this view, and thinks that a natural process of development cannot be a pathological state. Dr. Fischer has for many years devoted great attention to this subject, and has observed in his family, among his relations, and in numberless children, that either cold or error in diet during teething, was the immediate cause of the disease, and not dentition itself.—*Casper's Wochenschrift*, 1848. X

GENTLEMEN ADMITTED LICENTIATES OF THE ROYAL COLLEGE OF SURGEONS.

On Monday the 2nd inst., at a meeting of the Comitia Majora of the Royal College of Physicians, the following gentlemen were admitted Licentiates of the College:—Francis Sibson, M.D., London—Augustus Henry Novelli, M.B., Cambridge—John Augustus Tulk, M.A., Cambridge.

On Saturday the 31st ult. the following gentlemen were admitted Extra Licentiates: —John Barker—E. A. K. Welch—Mark Hamilton, R.N.

BOOKS & PERIODICALS RECEIVED
DURING THE WEEK.

Practical Remarks on the Use of the Speculum. By T. R. Mitchell, M.D.

Report on the Epidemic Cholera in Madras, in 1824. By William Scot, Surgeon, and Secretary to the Board.

Pharmaceutical Journal. April, 1849.

The Cyclopædia of Anatomy and Physiology. Edited by R. B. Todd, M.D. F.R.S. Part 35.

A Short Account of the Life and Writings of the late Joseph Clarke, Esq. M.D.; with Results of his Private Practice, &c. By Robert Collins, M.D.

Edinburgh Monthly Journal of the Medical Sciences. April, 1849.

The British Record of Obstetric Medicine. April, 1849.

Edinburgh Medical and Surgical Journal. April. [April.

The Journal of Psychological Medicine.

Die Erkenntniss und Heilung der Ohrenkrankheiten von Dr. Wilhelm Kramer. 2te Auflage. Berlin.

Bulletin Général de Thérapeutique. 3e, 4e, 5e et 6e Livraison. 1849.

On Parturition and Obstetrics. By Dr. Tyler Smith.

On the Causes and Treatment of Ulcers. By G. Critchett, F.R.C.S.

Boston Medical Journal. March, 1849.

Case of Acute Cerebro-Spinal Arachnitis. By R. L. Macdonnell, M.D.

The Hydrocele of the Tunica Vaginalis, &c. By R. L. Macdonnell.

The Veterinary Record. No. 19, April.

The British American Journal. March.

Hints on Obstetric Practice, with Illustrations. By John Bremner, Surgeon.

Lectures on the Parts concerned in the Operations of the Eye. By William Bowman, F.R.S. &c.

Oppenheim's Zeitschrift für die Gesammte Medicin, Sept. and Dec. 1848.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 29·42
„ „ „ Thermometer[a] ...... 40·8
Self-registering do.[b] .... Max. 74·5 Min. 30·

[a] From 12 observations daily. [b] Sun.

Rain, in inches, ·25.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 3° below the mean of the month.

BIRTHS & DEATHS in the Metropolis

During the Week ending Saturday, Mar. 31.

Births.		Deaths.		*Av. of 5 Win.*	
Males....	799	Males....	616	Males....	592
Females..	822	Females..	625	Females..	577
	1621		1241		1169

Causes of Death.		*Av. of 5 Win.*
All Causes	1241	1169
Specified Causes	1237	1164
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*..	268	221
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	63	54
3. Brain Spinal Marrow, Nerves, and Senses	147	141
4. Heart and Bloodvessels	41	46
5. Lungs, and other Organs of Respiration	197	243
6. Stomach, Liver, and other Organs of Digestion	64	67
7. Diseases of the Kidneys, &c...	11	13
8. Childbirth, Diseases of the Uterus, &c.	13	9
9. Rheumatism, Diseases of the Bones, Joints, &c.	10	7
10. Skin	3	
11. Old Age.....	43	73
12. Sudden deaths	60	14
13. Violence, Privation, Cold, &c.	82	37

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	12	Convulsions	57
Measles	19	Bronchitis	79
Scarlatina	56	Pneumonia	78
Hooping-cough ..	83	Phthisis	136
Diarrhœa	19	Dis. of Lungs, &c..	10
Cholera	4	Teething	17
Typhus	36		
Dropsy	29	Dis. of Stomach, &c. „ Liver, &c...	5 8
Hydrocephalus....	31		
Apoplexy..........	23	Childbirth	5
Paralysis	25	Uterus............	0

Remarks.—The total number of deaths was 72 above the weekly winter average. The deaths from cholera were only *four*, and require no especial notice.

NOTICES to CORRESPONDENTS.

We are obliged to Dr. J. Black (Bolton) for his offer, and willingly accept it. The paper just received shall appear as soon as several other communications, now in type, have been published. Dr. B. can then continue the series.

We are much obliged to Dr. J. C. Warren, Boston, U.S. for his paper. We will make arrangements for its early publication.

We regret that we have been unavoidably compelled to postpone until next week Mr. Macdonald's communication and Dr. Cormack's letter.

Received.—Dr. Collins.

THE GENERAL INDEX.

We have to announce to our Subscribers that a General Index to the *first* 40 *Volumes* of the London Medical Gazette will, it is calculated, form a large Volume of about 700 pages. The cost of the Index Volume, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. Wilson and Ogilvy, 57, Skinner Street, will receive the Names of Subscribers.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 and 1847,

By Bransby B. Cooper, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture LIII.

DISEASES OF THE BREAST.

Frequency of diseases of the breast in the female—probable cause—classification of breast disease—Acute inflammation of the mamma—symptoms similar to those in other organs under inflammatiom—Result of the inflammation in the breast—Abscess of the breast—symptoms—treatment—Soreness of the nipple—symptoms—case—Chronic inflammation of the breast—diagnosis—treatment—progress of disease—cases—Irritable mamma—symptoms—treatment—Atrophy of the mammæ generally occurs upon cessation of menstruation—Hydatid breast—true hydatid breast—definition—treatment—Sero-cystiform tumor of the breast—characteristics of the affection—case—Ecchymosis of the breast—rare disease—treatment—case.

There is, perhaps, no organ in the human body more liable to disease than the mammæ in the female; and notwithstanding the declaration of physiologists, that the organs of generation and of the senses are not essential to animal existence, how great is the number of women that yearly fall victims to this class of disease! although, perhaps, it may be said that its fatal termination does not arise from the primary action, but from the secondary effects upon the constitution of the individual.

The mammæ are naturally intended to perform a very important function, from which they are frequently withheld during the whole period of life; and although, from sympathy with the uterus, they are at stated times stimulated to a kind of action preparatory, as it were, to the fulfilment of their proper duties, this action shortly subsides, and the breast returns to a quiescent condition, without having performed any functional act, or produced any compensating secretion to allay the periodical excitement. Such disappointment, if I may venture such an expression—such disease, at any rate—appears to me sufficient to account, in a great measure, for the tendency to that deterioration to which these organs are so susceptible, even in otherwise healthy women; while in those of cachectic diathesis, such an interference with the intentions of nature produces that lengthened category of abnormal conditions of the breast known under the term "breast diseases."

Sir Astley Cooper has divided the diseases of the mammæ into three classes:—

1st. Those arising from common inflammation, either acute or chronic.

2d. Those arising from a peculiar action, but which are not malignant, and do not contaminate other structures.

3d. Those which are founded both on local, malignant, and specific action, and which are connected with a peculiar and general unhealthy state of the constitution.

Acute inflammation of the breast.—This increased action in the breast is of rare occurrence, which may, indeed, be said of all the secreting glands, unless there be interference with their natural secretions, or some powerful external exciting cause.

When acute inflammation occurs, it is attended by all the phenomena that mark increase of action in other structures—viz. swelling, pain, heat, and redness; and also great intolerance of pressure. Such signs of inflammation would point to the employment of antiphlogistic remedies: and the timely application of leeches, purgative medicines, and fomentations, or evaporating lotions, to the part affected, will generally lead to the termination of the attack by what is technically termed resolution; unless, indeed, suppressed lactation, retention of the milk, or some other exciting cause, keeps up the inflammation. The immediate result of this inflammation depends very much upon the tissue affected, and the constitutional condition of the patient: it may attack either the skin, cellular membrane, fibrous envelope, or secreting structure of the gland itself; the inflammation producing a train of symptoms, the character of which depends upon the tissue which is the subject of the attack, but at the same time modified in a great degree by the general health of the patient. When the inflammation is seated in the skin, redness constitutes the chief local sign of disease, and the pain is of a peculiar tingling character; in certain constitutions this cutaneous inflammation may have a tendency to take an erysipelatous form, so that in such cases the general health of the patient is a point of much importance.

If the cellular membrane be inflamed, effusions of differing character are thrown out, according to the degree of inflammation and the constitution of the patient: swelling is, therefore, a symptom, and the hardness will depend upon the state of the effused matter, as to its fluidity or otherwise; the

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swelling may consequently be œdematous, fluctuating, or solid, the treatment being in a great measure indicated by the physical state of the part.

Œdema is a species of dropsy, being produced by an accumulation of serum in the cellular membrane. The kidneys, skin, and bowels, should, under these circumstances, be excited to increased action, and where the constitution seems to be at fault, the acetate or nitrate of potash, with sudorifics and small doses of mercury, should be exhibited; but if the œdema seems to depend wholly on local causes, topical remedies will be found sufficient.

Abscess of the breast.—When distinct circumscribed fluctuation is present, preceded by rigors, it indicates the formation of matter, and generally speaking this should be at once evacuated by opening the breast: if the formation of matter depends, however, upon retention of milk, constituting what is called a "milk abscess," and if at the same time the matter be deeply seated in the substance of the gland, it is better not to open the abscess unless very severe constitutional irritation be manifested, but to wait nature's own time and means for the evacuation of the pus. Tonics and sedatives, with soothing fomentations, should be employed in these cases, and much benefit will be derived from drawing off the milk with a glass syringe; this seems to afford more relief than the sucking of the child at an inflamed breast: perhaps the mechanical means is less exciting to the organ, as putting the child to the breast always produces "a draught" of milk.

When the fibrous envelope of the breast is inflamed, the affection generally follows abscess in the cellular membrane: it is attended by sloughing of the fibro-elastic tissue, and the consequent formation of sinuses, which, before it can be made to heal, generally require to be laid open for the purpose of removing the sloughs. Black wash poultice is the best local application in these cases, but tonic remedies and generous diet must also be freely employed.

When the mammary gland itself is attacked by inflammation resulting from distension of the lacteal tubes, abscess is the frequent termination; matter may, however, form, in consequence of the inflammation of the fibro-elastic tissue, which not only constitutes an envelope to the whole breast, but is prolonged into the glandular structure, so as to surround every lobule. The matter would thus be interstitially diffused, and artificial openings generally afford but little relief. When the matter is caused by distension of the milk tubes, the abscess is more circumscribed, and the evacuation of the pus gives immediate relief: the necessity for puncture is sometimes obviated in this case by the pus flowing through the nipple.

After inflammation of the mammary gland, a degree of hardness is sometimes left which may be mistaken for scirrhus or some other malignant disease: the history of the case will generally lead, however, to a correct diagnosis, and when the hardness depends only upon common inflammation, poultices, mild mercurial ointments, or pressure, may be required to produce absorption.

Soreness of the nipple is not an infrequent cause of the extension of inflammation to the breast: if also there be any abnormal change in the termination of the lactiferous tubes in the nipple during the period of lactation, retention of the milk and consequent inflammation of the mammary gland is produced, often leading to abscess. Smallness of the nipple may lead to the same result; but this can generally be remedied by using a mechanical apparatus to lengthen the excretory portion of the organ: as soon as this is effected the child should be restored to the breast, as the natural stimulus produced by its sucking is likely to restore the normal state of the part, by establishing in it a general healthy action.

Sir Astley Cooper describes a swelling which is sometimes produced in the breast from retention of the milk, but which, instead of producing an abscess, forms merely a fluctuating tumor, generally attended by pain: if this tumor be opened, a quantity of milk will escape, the evacuation of which affords immediate and great relief to the patient. Putting the child to a breast in this condition, naturally increases the accumulation of milk, and consequently the pain and swelling. If a tumor of this kind be not opened, and the milk let out, ulceration of the skin will sometimes take place, and through the opening thus formed the milk will escape, and indeed will continue to do so during the whole time of lactation: this action is very detrimental to the child, as it loses a great portion of its nourishment. The openings established by ulceration of these tumors are often very difficult to heal, as they form sinuses which cannot be closed until lactation is stopped, after which they generally heal readily.

Such cases as those last described do not frequently come under my care; but there is scarcely a season in which two or three cases of milk abscess are not admitted into this hospital under the surgeons. My own experience of this disease leads me to consider that unless the patient is in considerable suffering, it is better to allow the abscess to open by ulceration, for if the lancet be employed farther, abscesses are almost sure to follow, while the spontaneous opening seems to be permanently sufficient for the discharge. After the local inflammation is subdued in this disease, the patient will require both tonic and soothing remedies; but some difficulty may be experienced in healing the factitious opening. The following case affords an example of this fact:—

A young married woman, who had lost her child about four months after its birth, was the subject of a chronic abscess in the breast, from which for two months a discharge of pus and milk continued to flow, and after that period a quantity of serum was constantly exuding: for the cure of these sinuses she was admitted in Guy's Hospital, but all the attempts at cure were ineffectual, until I passed a seton through the sinus, after which it rapidly healed.

Chronic inflammation of the breast.—This disease usually attacks persons from the age of puberty to about 30, and generally those of strumous diathesis. In some cases the whole of the mamma is affected, but the inflammation and swelling are more frequently confined to the cellular tissue between the lobules, the breast appearing as if numerous tumors were formed upon rather than within its substance.

The mammæ thus affected are tender on pressure, and cause a constant sensation of uneasiness to the patient; the latter symptom is very much increased during the period of menstruation, sometimes amounting to lancinating pain, shooting in the axilla or opposite breast: this pain is occasionally so severe as to lead the surgeon to suspect that the disease is of a malignant character; but the age of the patient, and the peculiar doughy feel of the superficial moveable tumors, will generally serve to distinguish it from scirrhus or fungus. It is somewhat difficult, however, under some circumstances, to distinguish it from fungus, as the absence of severe pain is a characteristic both of fungus and of chronic tumor; but in the latter the growth is very slow, while in fungus the increase of size takes place with great rapidity. When the breast is affected with this disease, it sometimes becomes concomitantly the seat of abscess: this may produce such an aggravation of the symptoms as to give rise to the opinion that the disorder is of malignant origin. I was once present with Sir Astley Cooper in consultation on a case in which the breast was about to be extirpated. Sir Astley recommended that an exploring incision should first be made in the tumor: it proved to be an abscess, and the breast was consequently saved.

The treatment I have found most effectual in this chronic affection is to apply occasionally three or four leeches, to use cold or tepid "white wash" poultices, and to keep the arm on the diseased side confined so as to prevent all motion: the strictest attention must be paid to the state of the secretions, and especially to the functions of the uterus: if these latter be deranged, steel should be administered: the patient should also be put upon generous diet, so that the powers of the constitution may be supported; but at the same time over stimulus must be carefully avoided. The medium I have found most generally useful in this disease is the combination of ammonia and soda with bark, employing also narcotics at bed-time: if the bowels be inactive, especially if the inaction arise from sluggishness of the liver, small doses of blue pill, with colocynth and ipecacuanha, may be occasionally given.

I think I have known two or three cases of chronic inflammation of the breast go on to ulceration without the formation of abscess: these, however, terminated fatally. I could not, however, regard these cases as malignant, although the patient fell a victim to the disease, for the affection was confined to the locality attacked, and did not propagate itself to distant organs by means of the absorbents: neither did the ulceration put on the usual character of malignant sores.

A lady, 30 years of age, consulted me in 1840 respecting a tumor in her breast. She stated that in June of that year she by chance discovered, while dressing, a tumor in her breast, about the size of a small apple. She had suffered no pain nor inconvenience, nor could she trace the formation of the tumor to any particular cause; it was perfectly moveable, and seemed to be immediately beneath the skin: she consulted a surgeon, who ordered leeches, evaporating lotions, and some kind of plaister, but she derived no benefit from the treatment. When I first saw the tumor, it presented the following appearance:—The breast was at least one-third larger than the other, and slightly pendulous and superficially placed: the tumor seemed as if it were a growth additional to the mamma, rather apart from it: to the touch it gave the idea of lobes separated from each other by intersections of fibrous bands: these characters induced me to pronounce the tumor non-malignant,—the age of the patient also supported this view. Notwithstanding the pendulous form of the tumor, the adventitious mass was inseparable from the mammary gland, with which it was indeed so intimately blended as to have the character of hypertrophy of the natural lobes of the mamma. The tumor was now painful, particularly when touched; the nipple seemed as if slightly contracted, but, upon closer examination, this was found to arise from the projection of the surrounding parts, and not from a contraction of the nipple itself. A consideration of all the symptoms in this case led me to view it as one of "chronic breast," particularly as it was concomitant with a deranged uterine action, and much pain at the time of menstruation. The growth of the tumor was more rapid than usual in chronic disease; but this perhaps depended upon the constitutional habit of the individual. The catamenia were natural as to period, but attended with more than usual pain, and often followed by leucorrhœa, and bearing down of the uterus. In this case I ordered the compound steel mixture, with compound decoction of aloes, and the application of a few leeches and poultices. I sent her to Brighton, and when she returned about six months afterwards, found that the breast had ulcerated, but the ulceration did not present a scirrhous or fungoid appearance. There was no enlargement of the absorbent glands, nor any symptom of the disease in other parts of the body: there was a somewhat copious discharge, and at one point granulations were protruding through the ulcer, presenting the appearance of the exuberant granulations in chronic abscess of the testicle. In the course of about three months, the patient died, apparently from the exhausting effect of the disease upon the constitution. On a post-mortem examination, no disease was anywhere found at all resembling that in the breast: indeed all the organs were healthy with the exception of one of the kidneys which was slightly granular, but not sufficiently diseased to account for the death of the patient. A section of the breast shewed the mammary lobes to be connected by a semi-solid medium, resembling imperfectly disorganized plasma, and towards the surface, in the vicinity of the nipple, some cysts were developed, containing granulations, surrounded by a small quantity of fluid. The existence of these cysts appeared to be the cause of the irregularity of the surface of the tumor, which had been manifest on manipulation.

Elizabeth Barber, æt. 43, was admitted into the hospital in July. She was a tall woman, of spare habit, sallow complexion, and dark hair and eyes: had been married about six years, and had had two miscarriages, the last occurring eighteen months before her admission. She commenced menstruating at 11 years of age, since which time her health had been good. When she came into the hospital she had a tumor in the right breast, which had existed three years and a half. When first detected it was about the size of a large hazel-nut, and did not occasion any uneasiness until two months afterwards, when it began to be occasionally painful: this was accompanied by a dragging sensation, which was particularly felt at the upper part of the breast, and always became worse prior to the menstrual secretion. The tumor increased very slowly up to the time of her last miscarriage, since which time it had grown very rapidly. Within a few weeks of her coming to the hospital, the breast had become much worse, the dragging sensation frequently continuing during the greater part of the day, attended with sharp darting pains. The breasts were both very small. In the right existed a tumor about the size of an egg, extending laterally towards the axilla: it felt hard and nodulated, was quite moveable, and painful on pressure. The nipple was not implicated in the disease; the patient never remembers having received a blow on the breast. A few days after her coming into the hospital the menstrual flow commenced, two days before which the pain in the breast was very severe. On the 10th of August I removed the tumor, which was found on examination to be a simple chronic tumor. There was but little bleeding at the time, but secondary hæmorrhage came on afterwards: it was, however, easily checked, the wound healed by granulation, and on the 30th of August she left the hospital quite cured.

Irritable mamma, or neuralgia of the breast.—This is a disease which attacks young persons from the period of puberty to the age of 25 or 30 years, and does not appear peculiar to any temperament. Sir Astley Cooper has stated that this disease may occur without there being any perceptible swelling; or there may be a distinct tumor composed of a structure unlike that of the mammary gland, and being therefore an adventitious deposit. I shall describe this disease as I have myself often met with it. From my own experience, I should be inclined to think that it generally attacks young women from 15 to 20 years of age, and of rather a full habit and sanguine temperament. I have generally seen it accompanied by enlargement of either one or both mammæ, as if they were preternaturally developed; but this is rarely attended by any tumor, although it sometimes happens that some of the lobules of the affected gland are slightly enlarged and hardened. Under these circumstances the breast is extremely sensitive, so that the patient is intolerant of the slightest touch, the pressure of the dress being sufficient to cause great aggravation of the pain, which is not confined to the breast, but extends into the axilla, and along the inner part of the arm of the affected side. The patient also complains of pain between the scapulæ, and cannot bear the least pressure on the dorsal vertebræ. Respiration is also hurried and painful, and there is frequently a tendency to hysteria. Menstruation is usually scanty and painful, but during this period the pain in the breast is lessened. Leucorrhœa is also a frequent concomitant, and these symptoms are often protracted, and difficult of removal. I have adopted both local and constitutional treatment in these cases. If the patient be of a full plethoric habit, I first order a few leeches to be applied to the breast, and after the abstraction of the blood, a fomentation of chamomile flowers and poppy heads. The next day I apply a large blister between the scapulæ; and if the pain in this region, has formed an urgent symptom, I order the blister to be kept open for three or four days. In order to render these local remedies of any service, the leucorrhœa must be checked. This may generally be done by an astringent injection. The best I know is composed of alum and decoction of oak bark; one drachm of alum to ten ounces of decoction. Belladonna and conium plaisters and poultices are also recommended, but I have found that their offensive smell excited nausea, and so much general annoyance, as to more than counterbalance the advantage derived from their narcotic effects. Internally, steel and other tonics may be given, and where nausea is a prominent symptom these remedies may be administered in a state of effervescence. An opiate should likewise be ordered at bedtime. Tepid shower baths are sometimes found useful; but change of scene and air, particularly that of the sea-side, will be found the most effectual of all remedies.

I do not believe that this irritable condition of the breast often leads to the formation of tumors, but that when they are concomitant with it, they are the cause, and not the effect of the irritability. This view seems strengthened by the fact that strumous swellings are sometimes attended by these neuralgic pains, in persons of irritable temperament. The performance of the natural function of the breast I look upon as the most certain cure of this disease; and it is but very rarely seen in married women, especially if they have borne children. I have lately had two of these cases under my care, but as all the symptoms have been already discussed, it would be useless to merely individualize them by mentioning the names of the patients.

Atrophy of the mammæ.—This change naturally takes place to a greater or less extent after menstruation has ceased, and is most remarkable in women who have never borne children. An abnormal diminution in the size of the breast sometimes takes place, however, not merely from the absorption of fat, but from wasting of the mammary gland itself. This kind of atrophy sometimes occurs from a long continuance of the irritable condition just described, as if the affection of the nerves interfered with the nutrition of the organ. The same phenomenon is seen in irritable testicle. If the breast be examined under these circumstances, and when atrophied from old age, it will be found that the excretory part of the organ alone remains, the glandular structure being entirely absorbed. It has been stated that the cumulative influence of iodine will produce this atrophic state, both of the mammæ and testicle; but, although I have seen considerable quantities of this agent employed through a course of many years, I have never witnessed any instance of this alleged effect.

In atrophied breast, medicines can avail but little, unless it arise from a general state of anæmia, when perhaps steel, sea air, and generous diet, may be useful, by improving the constitutional powers of the patient.

Hydatid breast.—This is a very rare form of breast disease, if the term be intended to imply the existence of living entozoa within the mamma; but if it be expressive only of the presence of cysts containing solid or fluid matter, it is of more frequent occurrence; in the latter case the more correct designation would, in my opinion, be the *sero-cystiform disease.*

True hydatid breast.—Little is known of the manner in which animalcules are generated within the structures of living animals; certain it is, however, that they do so exist, and are sometimes found in the mammæ as well as in other organs. When generated in the human breast, inflammation soon becomes excited, and a distinct fibrinous cyst is thrown out around the animalcule, producing a tumor, which goes on increasing in size, and at length fluctuation can be distinguished in its central part; but it is not attended by pain or inconvenience of any kind beyond that arising from the presence of an abnormal growth in such an organ. If the cyst be not evacuated, it ulcerates, and the hydatids are discharged spontaneously; after which the wound heals.

In speaking of the treatment of this disease, Sir Astley Cooper recommends that an opening should be made into the tumor for the purpose of discharging the hydatids; after which he says that a common poultice will be sufficient to heal the wound; but that, when the fluid alone is allowed to escape, and the cyst left behind, the fluid will re-accumulate: a seton should therefore be passed through the cyst; this produces sloughing of the part; the hydatid is removed, and the wound afterwards readily heals.

The hydatid breast is not malignant, the disease is not propagated to distant parts, nor does it return after it has been removed by extirpation. One of the principal distinctions between true hydatid breast and sero-cystiform disease is the facility with which the capsule of the hydatid escapes even after its fluid has been evacuated, whether the opening be made artificially or has arisen spontaneously; while in the sero-cystiform disease the cyst adheres obstinately, and continues to secrete its peculiar effusion until it is extirpated by the knife.

Sero-cystiform tumor of the breast.—This disease was described by Sir Astley Cooper as hydatid breast, and by some pathologists it has been considered analogous to encysted hydrocele. It differs, however, from both those diseases: from the former in not containing animalculæ; from the latter in the cysts being connected with each other by stalks or roots of fibrous processes, instead of being completely separate and distinct. The cysts are supposed to proceed from the dilatation of the lacteal tubes; but what I have seen of this disease induces me to view them as formed of a totally new structure.

In its external character this disease is so similar to true hydatid tumor that it is very difficult to distinguish one from the other: the swelling in both cases is of a globular form, slow in the progress of its growth, unattended by pain, discolouration of the skin, or any constitutional disturbance. To the touch the sero-cystic breast feels as if there were imbedded in its natural structure small fluctuating tumors, varying from the size of peas to that of a large walnut. As the disease advances, the original structure of the breast becomes more and more obscure. If one of the cysts be opened, it will be found to contain a clear straw-coloured fluid, very coagulable by heat, and differing in that respect from encysted hydrocele, to which, as I have already said, some surgeons have considered this disease similar. The fluid of the cysts is sometimes, however, found to be opaque, viscid, or sanious: when the latter condition presents itself, it becomes very difficult to distinguish the sero-cystiform disease from fungus. After the fluid has been evacuated, it quickly re-collects, and the diminution of the tumor is therefore but temporary. When a cyst has been emptied by puncture, its character sometimes becomes altered: it thickens, or even granulates, so that it becomes converted into a comparatively solid tumor: in this stage the swelling begins to create an uneasy sensation; the whole breast assumes the character of "chronic tumor;" and if at this period it be not extirpated, the skin soon becomes involved, and ulcerates; yet, at the same time, the constitution remains but little affected.

Neither local nor constitutional remedies appear to possess the slightest power over this disease, the only available means of treatment consisting in its extirpation; but even here a successful issue ought not too confidently to be predicted, as, from the difficulty of the diagnosis, it is impossible to say that scirrhous or fungoid tubercle is not concomitant with the sero-cystic affection: this is sometimes the case, and under such circumstances the disease would doubtless prove fatal. A case of this kind is described by Sir Astley Cooper. An unmarried lady, 34 years of age, consulted him for a swelling in the breast which she had discovered about a year previously; the tumor had all the physical characters of the sero-cystiform disease, but was somewhat harder than usual. The breast was extirpated. Upon afterwards laying open the tumor, it was found to be made up of numerous cysts, some of which were filled with fluid varying in colour and consistence; while others contained solid matter, and a tumor of considerable size was placed above the nipple. The patient quickly recovered from the operation; but twelve months after, the disease returned in the cicatrix, and she died in a short time with all the symptoms of cancer. The cystiform disease itself is not, however, malignant. I have seen several cases in which it has been effectually removed, never afterwards reappearing. An interesting case of this kind is published by Sir Astley Cooper: it was that of Lady Hewitt, whose breast, after amputation, weighed nine pounds. A drawing of this tumor is given in Sir Astley Cooper's monograph on non-malignant disease of the breast.

Ecchymosis of the breast is a disease spoken of by Sir Astley Cooper, but of my own experience I know nothing of it: it is, however, admitted into the category of morbid conditions of the breast, and therefore I must not leave it altogether unnoticed. It is evidently a strong instance of the sympathy between the uterus and the mammæ, and is said to be generally concomitant with a diminution of the menstrual discharge, and would seem to prove as a consequence an unnatural flow of blood to the breast, producing the ecchymosed appearance. Patients who are the subjects of this disease are of a highly irritable temperament, and from the symptoms it would appear that they are of a hæmorrhagic diathesis. The treatment must be directed to the improvement of the general health, and especial attention should be paid to the functions of the uterus. Steel, bark, and mineral acids, generous diet, and pure air, would probably be found the best remedies.

Since the above account of ecchymosed breast was written, the following case has come under my care:—

In August, 1848, a woman was admitted into Guy's Hospital with a small nodulated tumor on the right breast: it was moveable, and seemed to be made up of several interlobular effusions of considerable hardness; the breast was painful, especially at the period of menstruation, which function was but imperfectly performed. The patient was anxious that the tumor should be removed, and I performed the operation on the tenth day after her admission. Upon dissection, the tumor was found to be composed of effusions of blood deposited in the areolar tissue of the breast in irregular masses, forming the numerous tumors which had been evident to the touch. As the patient had received a blow upon the breast, it is a question whether the effused blood had depended upon that cause, or whether it was the result of a vicarious discharge of blood depending on interruption to the uterine function.

CLINICAL LECTURE
ON
RETENTION OF THE URINE, AND INJURIES OF THE URETHRA.

By John Adams, Esq.

Surgeon to the London Hospital.

Gentlemen,—During the last week there have been admitted into the hospital five cases of retention of urine, from which I have selected three, which appear to me well worthy of your especial observation; and I have added to these another case of severe stricture of the urethra, as it is in some respects parallel to one of the cases on which I shall offer a few remarks. I have selected this class of cases because of their high importance, and because it is requisite that you should have definite ideas of their nature, and the treatment required for their relief. I have always been firmly impressed with the necessity of directing the attention of the junior students, especially, to the general and particular features of each case, so that the visit to the wards may become as profitable as possible; and hence I shall make a point of occasionally putting a question on the cases which come under our notice as we go round the wards; and I shall, as I believe it to be my duty to do, offer you a few remarks on cases grouped together, as well as on individual cases, by way of a clinical lecture. The first is a case of retention of urine, arising from enlarged prostate gland: it is reported by Mr. Fox, the dresser for the week.

Henry Bromwich, æt. 77, was admitted March 7th; he had never suffered from any urinary affection until about a week since, when he was seized with great pain in the perinæum; his water began to dribble away, and he was unable to empty his bladder. When admitted, he could pass no water, his bladder was very tense, he had great pain in the penis, which was swollen and œdematous.

On attempting to pass a metallic catheter, a grating sensation was experienced in the anterior part of the urethra; this arose from the instrument having come in contact with a mortar-like substance arrested in its expulsion from the bladder; the prostate was evidently enlarged: two pints of offensive and ammoniacal urine were withdrawn; it had a dirty, muddy appearance. He was exceedingly distressed, his tongue loaded, and altogether his constitution was evidently much affected. He was ordered thirty drops of laudanum, and to sit in warm water.

March 8th.—He has passed a tolerable night, but seems low and depressed. His tongue is dry and furred. Has passed no water. The water drawn off to-day was more natural in its character, and the grating sensation was still communicated to the catheter. He was ordered camphor mixture with carbonate of ammonia, and three ounces of brandy.

March 9th.—He feels altogether better; suffers less pain; the penis is less swollen; there is no sensation of sand in the urethra on the introduction of the catheter. He is ordered to take mucilage with liq. potassæ and tincture of hyoscyamus, and to continue the brandy, and hip bath.

10th.—Is by no means so well; his tongue is dry and furred; his countenance is becoming anxious; his urine still muddy and fœtid.

11th.—He passed a bad night; his countenance is haggard, and he is delirious, the delirium being that of dementia; he is in a typhoid condition. The catheter was passed with difficulty, and the urine is highly offensive and mixed with pus: he continues his stimulant.

12th—He gradually sunk in the course of the evening. The body was removed without any examination, contrary to the surgeon's order.

This is one of a class of cases of every day's occurrence; presenting, nevertheless, some features of a peculiar character, and, at any rate, it is on all accounts one worthy of our consideration. Every student who has been a dresser at this hospital has had abundant opportunities of treating cases of retention of urine from enlarged prostate; and I have little doubt but that, if a careful analysis of all the cases of retention of urine, admitted during the year, were made, it would be found that a vast number, if not a majority, were cases of this description. These are the cases to which, in private practice, you will frequently be called, and which require the nicest attention and care in their treatment; for if they are misunderstood, and are carelessly or unskilfully attended to, they are usually fatal. On the contrary, by due attention they are amenable to treatment; and patients afflicted with this serious disease will live many years, and eventually die of some other affection, independent of the one in question.

You will perceive that the case is one of retention of urine from hypertrophied prostate, in which the patient passed a large quantity of a mortar-like substance. I beg to remark, in reference to the retention of urine, that on the first blush you may be deceived in many of these cases, for your attention will often be first directed, not to the retention, but to an incontinence of urine, and the patient will tell you that he is suffering from a constant dribbling of his water, which he is unable to retain; and if you are not on your guard on this point, you may be led into fatal error. If, therefore, you are called to a case of this description, make a careful examination in the hypogastric region, and the chances are that you will find an over-distended bladder, and that the patient has had pain in that region, or in the perinæum, or at the end of the penis, for some days, and that there is a disturbance of his general health, as indicated by a furred tongue, hot skin, and quick pulse: you pass a catheter, and are not surprised to draw off a large quantity of highly ammoniacal urine. I advise you, therefore, in all such cases, to satisfy yourselves as to their nature by the introduction of the catheter, and not to be deterred from this by the feelings of the patient, who will tell you there is no necessity for it, as during the twenty-four hours he has passed a large quantity of water.

The treatment, therefore, of this disease resolves itself at once into this—that, inasmuch as there is mechanical obstruction, arising from an inflammation attacking a prostate already in a state of hypertrophy, at the neck of the bladder, the large prostatic catheter must be passed, and the water drawn off night and morning, and the patient may sit in warm water at night. I cannot too forcibly impress on your minds the necessity of careful manipulation; for if violence be used, or any bungling occur, extensive suppuration of the prostate, and acute inflammation of the mucous membrane of the bladder, will result; and this complication, in patients of the advanced age at which such diseases occur, will in all probability be fatal. There is no use in wasting your own time, or the patient's strength, by bleeding, leeching, warm baths, or purgatives, and even opium is injurious, inasmuch as it lulls the patient's sufferings, and may thus put you off your guard. As to after-treatment, you must support the patient's constitution with beef-tea, wine, or brandy; and, keeping the bowels open with castor oil, you may give mucilage with a little liq. potassæ and tincture of hyoscyamus, with a view to dilute the urine and render it less acrid. I have an objection to the employment of acids in the early part of the disease: I have never seen any good from them, and I fancy that they tend to keep up irritation; but when the disease has assumed a chronic form,—that is, when all constitutional disturbance has passed away,—a little nitric acid with decoction of Pareira Brava is highly beneficial. You persevere in the introduction of the catheter until the patient will tell you that he can now make water himself.

Now with regard to the nature of the disease. It is one of hypertrophied prostate, with a sudden access of inflammation, excited, as the case may be, by a variety of causes: exposure to cold and wet, a too free indulgence in the luxuries of the table or in venery,—in fact, anything that occasions an increased determination of blood to the part will bring it on. As to hypertrophy of the prostate itself, it is very difficult to account for it: it is well known that it is one of the commonest diseases of advanced age, and that all classes in society are liable to its attack. I believe it will be more frequently found in persons who have lived freely, and who in old age are too much addicted to venery,—striving, so to speak, to accomplish more than nature dictates; but as it is so frequent under such varied circumstances, I am loth to speak too confidently on this subject. When you examine sections of an hypertrophied prostate, you find its vessels enlarged, its ducts increased in size, and the cellular tissue connecting them together increased in quantity. The left lobe is more frequently enlarged than the right, and the middle lobe is very commonly the seat of disease; and when this is the case, the lateral lobes are commonly enlarged. By this enlargement of the prostate, the urethra is lengthened, and deviates considerably from its natural direction, and its vesical orifice is raised or thrown to one side. All these circumstances must be remembered when the catheter is passed; and hence the necessity of careful manipulation, and the avoidance of all force in passing the instrument.

I now wish to direct your attention to the mortar-like substance which was felt in the urethra in the case before us. I cannot speak quite positively on this subject, as no analysis was made of it, and as the bladder was not examined after death; but I will assume, as I have little doubt on the subject, that it was a deposit of the earthy phosphates. Whence is this earthy substance derived? You must remember that in old persons the phosphates predominate in the blood, and that calcareous concretions occur in many structures in advanced age. Thus the arteries of the old person are commonly ossified, as are also the valves of the heart; and it is well known that the urine throws down a large quantity of this material when the mucous membrane of the bladder is inflamed; so that, if an instrument is left in the bladder, it soon becomes coated with phosphatic deposit. Now, under the circumstances attending enlargement of the prostate gland, the earthy phosphates are set free; and hence their deposition in the bladder in the form of white sand, which, being mixed with mucus, assumes the appearance of mortar, as was presented in this case. In some cases it concretes in the form of a stone, an example of which I saw last year in a gentleman who had been a martyr to rheumatic gout, and who became affected with enlarged prostate. He had all the symptoms of stone in the bladder, and, on sounding him, I felt a distinct grating when the sound was traversing the prostatic part of the urethra, and I had no doubt at the time that a stone existed: it must have undergone a considerable solution, for after death there was but a small trace of it remaining in the bladder, the prostate being hardened like scirrhus. The disengagement of the earthy phosphates depends in all probability on the combination of ammonia with the acid of the urine, the ammonia being the result of the decomposition of urea and other animal substances, as the mucus secreted from the inflamed membrane; the urea containing the elements of ammonia, or, to speak more strictly, the elements of *cyanate of oxide of ammonium.*

In some cases of enlarged prostate you are aware that calculi are found in the substance of the gland. In the follicles of the gland there have been frequently seen minute concretions, when sections of the gland are placed under the microscope: you will find a representation of them in the article *Prostate*, in the Cyclopædia of Anatomy: it is most probable that these form the foundation of the prostatic calculi I am now speaking of. These calculi are often found in large numbers, of a morbid shape generally, sometimes flattened by contact, and of larger or smaller size, varying from the size of a pea to that of a small pin's head. I here show you a pill-box half full of such calculi, which were passed by an old gentleman, a great sportsman, whom I lately attended with retention of urine, and who was astonished one morning to find in the chamber-pot a large number of what he compared to *snipe-shot.* In some of these cases the tissue of the gland becomes absorbed from the pressure arising from the accumulation of these stones, so that on passing the finger *per rectum* it gives the sensation of a bag of marbles: an analysis of these concretions proves them to consist of phosphate of lime principally, and from the analysis made of the calculi of this nature in the College of Surgeons, it has been found that the relative proportions of phosphoric acid and lime vary, although they may be reduced to two salts—namely, the diphosphate of lime, which is partly fusible, and the basi-phosphate, which is infusible. When these calculi escape into the bladder, they become coated with the triple phosphates, and when lodged in the urethra they may even obtain a covering of lithic acid; but this is rare.

The next case of retention of urine is one of permanent stricture of the urethra*. James Elliott, aged 44, suffered twenty years ago from a severe attack of gonorrhœa; this was succeeded by gleet, which lasted twelve months. After this the stream of urine became greatly diminished, and during the last two years the difficulty of making water has much increased, so that he is frequently obliged to kneel down to micturate. He attributes his attack of retention to exposure to cold and wet, in his business as a bricklayer. On the 6th of March he suffered great pain over the pubes, and passed a little water with some difficulty: this afforded temporary relief: during the day he got much worse, and came to the hospital at 5 P.M. with his bladder much distended. Unsuccessful attempts were made to introduce the catheter: he was then ordered a warm bath, which gave but little relief, no water having passed in the bath. Catheterism was again attempted, and after some time and trouble a small bougie was passed, which was withdrawn, and a small elastic catheter was introduced, by which two quarts of water were drawn off. The instrument was left in for some days, and the size having been gradually increased, he left the hospital comparatively well on the 18th.

In directing your attention to the leading features of this case, I have to remark that it is one of very common occurrence, and such as must have occurred to every dresser at this hospital. A man gets a clap, which is neglected, and this passes into a confirmed gleet, and eventually gives rise to permanent stricture of the urethra. You are probably aware that neglected gleets are apt to end in stricture: a chronic inflammation attacks the urethra under such circumstances, and a narrowing of the canal is the consequence; the stricture being attributable to this rather than to the use of astringent or stimulating injections, so frequently resorted to for the cure of the gleet.

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* Reported by Mr. Fox.

In retention of urine from this cause, how are you to proceed? I would answer, after the method adopted in this case. If the bladder is over distended, you had better at once resort to the catheter: if you cannot succeed in its introduction, then use the warm bath, leeching, purging, and warm enemata, with opium. If the symptoms are not urgent, try these latter means first, and then use the catheter, unless the urine has passed. Be guided by the urgency of the symptoms, and remember that here you have to deal with a stricture of the canal, probably inflamed from some accidental cause. Of course none but small instruments are admissible at first: you tie the catheter in, and after a good suppuration has been established around it, a larger instrument may be employed, until the cure is as complete as the case admits of. Remember, however, that there is always a great tendency to the recurrence of the disease.

The next case to which I shall advert is one of retention from permanent stricture, succeeding a blow on the perinæum; and in alluding to this I shall couple with it the history of a case of ruptured urethra, leading to permanent stricture. James Brown, æt. 33, gives the following history of his case:—At the age of 7 he received a blow on the perineum by falling on the edge of a board, for which he was admitted into the hospital, where he was treated by leeching and warm fomentations, and he left quite well. At the age of 14 he was again admitted in consequence of retention of urine from stricture; he remained in a fortnight: catheters were passed, and he was discharged relieved. At the age of 20 he had a severe attack of gonorrhœa, supervening on a stricture: he was in the hospital five weeks: leeches, warm baths, and the catheter, were used for his relief. At the age of 26 he was admitted under the care of Mr. Andrews, for retention of urine: leeches and warm baths were used, and catheters were passed with much difficulty: he remained in the hospital nine weeks. At the age of 28 he comes in again, and his case in every respect is worse; and at the age of 30 he suffers from retention of urine and swelled testicle, for which he is again admitted, and remains a fortnight; and on a subsequent readmission he is found labouring under an abscess *in perinæo*: water is discharged *per urethram*, and Mr. Adams made an opening in the perinæum: the catheter had been passed, and was retained three days; it was withdrawn, and could not be again passed: the urine passed partly through the urethra and partly through the perinæum: he remained in the hospital thirteen weeks; no instrument could be passed; the wound in the perinæum had healed. He became an out-patient, but no instrument has been passed into the bladder.

March 9th.—He came to the hospital in great pain, especially in the perinæum and about the neck of the bladder: his urethra is very irritable, and he attributes his distress to a cold caught by leaving off his flannel. It was not deemed advisable to attempt the introduction of the catheter: he was cupped in the perinæum, took a dose of Jalap and Calomel, and was ordered a hip-bath: whilst in the bath he passed water with much relief. The leeches were afterwards occasionally repeated, as he still complained of pain in the perinæum. The bladder now became inflamed; this was attended with fever: the urine was distinctly alkaline, and a large ropy sediment was found at the bottom of the utensil. After the subsidence of the feverish symptoms he was ordered Decoct. Pareiræ, with dilute Nitric Acid; but this was discontinued, as intense pain in the perinæum, accompanied with excessive irritability of the bladder, and fever, came on. He now took Pil. Hydrarg. gr. v., and Pulv. Doveri, gr. x., at bedtime, and leeches were ordered to the perinæum, and he took thirty drops of laudanum: a poultice was applied to the perinæum; a mixture of mucilage with Liq. Potassæ and Tincture of Hyoscyamus was ordered. By these means he was much relieved: but after a few days the symptoms reappeared, and were combated by leeches and opium, and he is now considerably better, and will probably have another attack of fever and inflammation of the bladder.

As this case is incomplete, I shall defer the consideration of it, and proceed to relate another case of injured urethra, and in some respects parallel to this, as I am anxious to speak on the subject of ruptured urethra.

William Pink, æt. 10, fell through a hole in a loft on Friday, July 1st, 1848: one leg passed between the bars of the ladder, and the weight of his body was thrown on the perinæum. His mother fomented him with warm water, and applied two leeches; but finding that he could not pass his water he was brought to the hospital. A catheter was tried, but could not be passed; after which he had a warm bath, and was sent to bed. As no water was passed on the ensuing day, the urethra was cut down upon, and a quantity of extravasated urine was evacuated; after which a catheter was passed, and retained three days. The wound gradually contracted, but did not close; and he was discharged after seven weeks, the urine partly passing by the wound, partly the natural way. About six weeks afterwards he was again admitted, the wound having closed: he had symptoms of retention of urine, with abscess *in perinæo*: this was opened, and a quantity of pus mingled with urine escaped. After this time a fistula formed, through which the greater part of his water was discharged. He had a constant dribbling of urine through the urethra and fistula; the skin of his thighs and scrotum was excoriated, and his general health suffered materially. He came under the care of Mr. Adams, who found on examination that no instrument could be passed into the bladder, but that after the catheter had passed three or four inches down the urethra it seemed to enter a sinus, and on being pushed on it became firmly grasped, and could not be made to enter the bladder: the sinus evidently communicated with the fistula *in perinæo.*

Mr. Govett, the dresser, was directed to endeavour, day by day, to introduce a sound or small catheter, and having passed it into the strictured part, to leave it there for a time, and thus gradually to make his way into the bladder. A small conical sound was used. Since these efforts were made, a gradual improvement has taken place: the urine has begun to flow through the urethra, and the aperture in the perinæum is gradually closing. After some time, a catheter of small size has been passed without difficulty, and retained in the bladder for an hour. Soon an instrument of larger size was passed, and this has been gradually increased, and he is now able to pass his water in a stream the size of a crow-quill; the fistula being nearly closed. He was discharged with directions to come to the hospital every other day to have the instrument introduced by Mr. Govett.

I have brought these cases before you, in consequence of their frequency and high importance: and although in many respects they differ materially, yet in others they are similar, and afford ample illustration of the exceeding great difficulty in managing diseases of the urethra the result of mechanical injury. I may say, without hesitation, that no strictures are more intractable than those produced by blows and ruptures of the urethra. I shall direct your attention to the latter case in particular, to expose to you what it is advisable to do under circumstances of rupture of the urethra.

When this accident happens, the anterior part of the membranous portion of the canal, from its position beneath the arch of the pubis, generally gives way; and the accident usually happening from falls or blows on the perineum, the urethra is either partially or completely divided. The first local indication of this accident is seen in the escape of blood through the urethra: this is accompanied with more or less bruise of the perineum, and generally retention of urine follows. At once you endeavour to introduce a catheter of medium size; and taking an elastic one of moderate size, you pass it down the urethra: in doing this you will in all probability come to some irregularity in the canal, but by a little careful manipulation, and by keeping the end of the instrument against the upper part of the canal, if the urethra is not completely divided, you will succeed in getting it into the bladder. If the continuity of the canal is destroyed, you will expect to meet with more difficulty in passing the catheter, or you may wholly fail in accomplishing this. An elastic catheter should be first tried, but sometimes you will succeed better with a silver instrument; but, whatever instrument you employ, when you have introduced it let it be retained in the bladder.

Now, with regard to the perineum: are you to lay it open or not? If you cannot pass the catheter, of course this must be done; otherwise, unless there be extensive extravasation of blood, accompanied with considerable tension, and a shiny state of the skin, leave it, as you would any other bruised part, to the natural efforts to repair; but, if these conditions just mentioned exist, you must at once make a free incision into the perineum to permit the coagulum to escape: there is no use, but positive harm, in the application of leeches under these circumstances, and I have seen sloughing rapidly succeed such pernicious practice.

If you are compelled to open the perineum from inability to pass the catheter, you first introduce the instrument as far as you can, and cut down through the raphé. You then perceive the end of the catheter, which, of course, you must endeavour to introduce into the proximal part of the canal; but this is frequently not so easy a matter, and sometimes cannot be accomplished. Should such be the case, you are to leave the patient, order a fomentation, and in all probability the urine will flow through the wound in a little time. I recollect, however, an instance in this hospital of a man, whose urethra was lacerated, and the pubis fractured, in which I was obliged to puncture the bladder above the pubis, as no urine flowed through the urethra, notwithstanding the perineum was laid open. The man died eventually of sloughing and abscess of the cellular tissue of the pelvis, consequent on the extensive injury to the bones and soft parts. The difficulty in finding the proximal end of the urethra must depend on its being twisted out of its natural position, or possibly by its being retracted from its own elasticity, or by the action of the muscles. Whilst I am now addressing you, I understand that there is a case of divided urethra, recently admitted under another surgeon, in which the proximal end of the canal could not be found; in this case the urine passed through the perineal opening after a short time.

Having relieved the bladder of its contents, you are to treat the case as one of stricture, and continue the employment of the catheter until the cure is accomplished, remembering always that sooner or later contraction of the injured urethra will take place: you should therefore give a guarded prognosis, and direct the patient to apply to you the instant any narrowing of the stream of urine is perceptible.

It is not my intention here to speak of the general treatment of strictures of the urethra; I hope to have more leisure for this subject when the other lectures are over; but I cannot allow this opportunity to pass without saying, that the treatment of a severe stricture should, if possible, be confided to one person, so that the urethra should not suffer by the meddlesome interference of a variety of surgeons. In the case just mentioned, when Mr. Govett, the dresser, had succeeded by perseverance and careful manipulation in getting a catheter into the boy's bladder, I did not attempt to interfere, as he knew the road much better than I did. I may conclude what I have to say on this subject at present, by remarking that such cases are seldom or never thoroughly cured, and your experience here will show you, I am sure, that patients thus afflicted will be constantly applying to the hospital for relief.

CONCLUSIONS RESPECTING DYSENTERY—CONTAGION.

Dr. Fisher, from long observation, thought the following laws were established in reference to this disease, and desired to call the attention of gentlemen to their investigation. 1st. The true dysenteric symptoms are preceded by a preparatory period, during which there is more or less diarrhœa, &c. &c. 2d. The dysenteric stage seems to obey a law of duration, no case terminating in less than eight days. 3d. The disease does not occur a second time in the same individual. On this point Dr. Fisher had found his experience confirmed by inquiries made among a number of American practitioners. 4th. Treatment had little influence to arrest the disease. 5th. As regards contagion, Dr. Fisher had observed the following facts:—A child and its mother died of dysentery three years since at Dorchester: the child's aunt came from West Roxbury, and grandmother from Providence, R. I., to nurse these two in their illness. After their return to their respective homes they were both attacked with the disease: in the family of the aunt, it was communicated to the husband, two children, and a servant; and in the family of the grandmother, to a daughter, and to two or three others.—*American Journal of Medical Sciences*, January 1849.

Original Communications.

CONGESTIVE DYSMENORRHŒA—

NEW DEPLETORY APPARATUS FOR THE UTERUS.

By James Whitehead, F.R.C.S.
Surgeon to the Lying-in Hospital, Manchester.

In an able article published in the London Medical Gazette for November 1846, Dr. Oldham has described two well-marked forms of disordered menstruation, denominated respectively the membranous and the mechanical dysmenorrhœa. The first of these is characterised by the formation and expulsion, during the menstrual period, of organised membranous substances, sometimes in form of shreddy fragments of different shapes and sizes, sometimes existing as an entire sac, having the configuration and dimensions of the uterine cavity, and being associated with an inflamed or highly irritable state of the internal surface of the uterus, upon which condition the development of the substances in question—in what manner produced need not here be made matter of inquiry—appears mainly to depend. The other form, named mechanical dysmenorrhœa, is attended by an altered state of the catamenial product; the discharge being mixed with coagula of different sizes, escaping in variable quantities, at irregular intervals, and accompanied with considerable pain of a forcing or expulsive character. These phenomena are due to a morbidly constricted condition of the cervix uteri, which hinders the free evacuation of the menstrual product after its escape from the uterine vessels; the fluid, consequently, collecting within, and distending the walls of the organ, is thence expelled, from time to time, by the contractile efforts of the uterus. Both these are attended with certain sympathetic disturbances well described in the article alluded to, which I recommend to the careful notice of the reader.

But besides the above-named forms of disordered menstruation, a third variety is met with in practice, equally prevalent as either of the preceding, and which, from the character of its phenomena, and the pathological conditions upon which it depends, may not inaptly be termed *congestive dysmenorrhœa*. Its individuality is sufficiently well marked; being unaccompanied, on the one hand, by the membranous formations which distinguish the first, and wanting, also, in the defective state of the lower uterine canal significant of the second form described in Dr. Oldham's memoir.

Congestive dysmenorrhœa consists, essentially, in a state of vascular hypertrophy of the uterus and its appendages, and is associated, to greater or less extent, with a similar condition of the portal circulation generally. The whole, or a considerable portion of the uterus, is found to be abnormally large and weighty, descending in the vagina to a point below its natural position. The cervix is tumid, occasionally excoriated, or presenting a granulating surface; and although sometimes hard and resistant, is more commonly less firm than natural, erysipelatous, varicose, œdematous, or spongy. Its body, upon tactile investigation, is hypertrophied, and not unfrequently painful under moderate succussion made with the finger. The enlargement is sometimes equally pronounced on all sides, but is as frequently partial, implicating, in the majority of instances probably, the posterior wall, in which case the organ is thrown backwards into the hollow of the sacrum, constituting the position of retroflexion or retroversion; and resting heavily upon the rectum, materially interferes with the function of defecation. Occasionally, however, the anterior wall is the seat of engorgement, the uterus assuming the position of antiflexion or antiversion, and exerting an undue degree of pressure upon the bladder: the capacity of this viscus is consequently diminished in proportion to the extent of the encroachment, and, influenced, moreover, by a lively sympathy with the part affected, through the intimate relation which exists in the nervous apparatus of the one and the other, the necessity for its evacuation becomes distressingly urgent. The walls of the vagina are commonly relaxed, the labia externa swollen and sometimes marked with venous distension, which state is seen to prevail also about the upper parts of the thighs. The hæmorrhoidal vessels are in like manner implicated, accompanied with effusion of blood, which escapes per anum, generally regarded as the result of piles existing within the lower bowel. The orificium uteri is sufficiently capacious, admitting freely the uterine sound, the presence of which within the organ is generally unattended with any manifestation of that highly irritable condition under which the dysmenorrhœal membrane is produced.

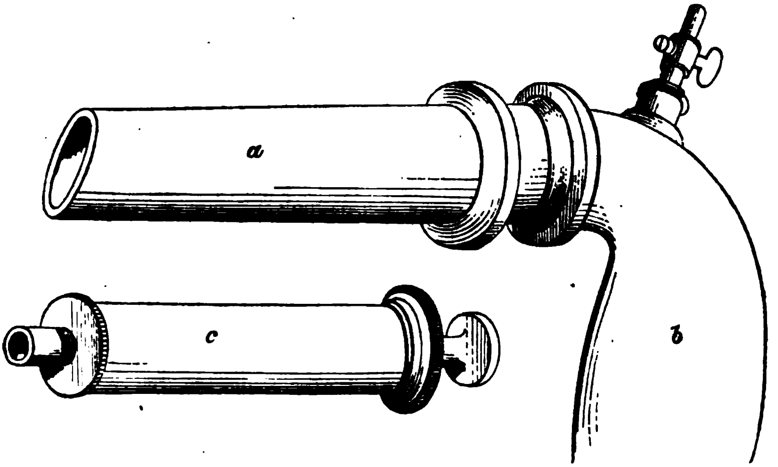
The discharge of blood during the natural menstrual period is, for the most part, scanty and irregular, always unmixed with shreds of membrane, and rarely clotted: it often abates or entirely ceases on the second or third day, and recommences after a few hours, to be continued for a longer or shorter period. These interruptions are, in some instances, several times repeated in the course of one menstrual crisis. The blood is thick and dark-coloured, in some rare instances thinner and mixed with clots; and a watery leucorrhœa prevails during the free catamenial intervals. In cases complicated with ulceration of the cervix, the leucorrhœal discharge has more consistence, and is of a yellowish hue.

On the approach and during the existence of each menstrual change the digestive organs and the health generally are more or less inconvenienced. The abdomen is tumid and often tender; there is impairment of appetite, or painful distension of the stomach from the presence of even a moderate meal: sometimes there is nausea and bilious vomiting, languor, yellowness of the skin, scanty high-coloured urine, with other indications of hepatic congestion. Shooting pains, affecting the mammary glands, with occasional enlargement of the entire substance, or a nodulated condition of one or both of these bodies, palpitation, and oppressed respiration, sometimes amounting to asthmatic breathing, are not unfrequently present. The symptoms which more especially attract the patient's attention, however, are aching of the loins and sacrum, of the hips, and across the hypogastric region, which is usually the seat of painful distension, accompanied with a pulsatile movement synchronous with the heart's action. The aching is also felt along the thighs, and is sometimes extended to the feet and ankles. Alarming attacks of hysteric convulsions, or aguish rigors followed by febrile reaction, with physical prostration and aching pain throughout the body, are not uncommonly the immediate precursors of menstruation under the circumstances here indicated; and should it so happen that the periodical discharges do not occur to relieve this state of local plethora, inflammatory congestion of the uterus or of some other viscus will be the almost inevitable consequence. The patient is usually admonished of the impending crisis by the advent of some of these symptoms a length of time before its accession,—generally from one to five or six days.

Congestive dysmenorrhœa occurs in women of all ages after the first appearance, and before the final cessation, of menstruation; and, so far as my experience extends, it is more commonly met with in the married than in the virgin state. It often exists in those who have been a length of time married with failure of progeny, and in those who have experienced repeated abortions, in whom the contingent evacuation was insufficient for the healthy restoration of the circulatory balance. It also appears as a consequence of a similarly defective lochial discharge after deliveries at the full term of gestation, the uterine veins remaining distended with blood, and a state of atonic congestion persisting.

The treatment involves the necessity of both local and constitutional measures. Of the latter kind, depletion, the use of the warm bath when practicable, and of alterative medicines, are, from the state of the vascular system, plainly indicated. If the patient be plethoric, and the symptoms acute, bleeding from the arm, or by leeches applied to the abdomen, to the amount of eight or ten ounces, may first be practised. This should be followed by the exhibition of three grains of Pil. Hydrarg., or one grain of Calomel, combined with a quarter or a third of a grain of antimony, with or without hyoscyamus or opium, as the urgency of the prevailing symptoms may seem to require, given every night, or twice in the twenty-four hours, and a draught of the following kind twice or thrice a day:—℞ Ferri Sulph. gr. ij.; Quin. Sulph. gr. ½; Magnes. Sulph. ʒj.; Acid. Nitric. fort. gtt. iv.; Tinct. Hyoscyami, ♏xx.; Aq. Menth. Pip. ℥j. Misce. ft. haust. These, or remedies of a similar nature, should be used until a decided change in the character of the secretions is manifest. If the symptoms be of a more chronic character, general bleeding may be dispensed with, and local depletion at once put in practice; but the latter will be much more effective if adopted a short time before the appearance of the menstrual discharge, when, in consequence of the natural organic determination, the blood may reasonably be expected to flow more freely.

Two or three days before the catamenial change is expected to come on, from three to eight or ten ounces of blood should be abstracted from the lower part of the uterus, either by leeching or by cupping, in the manner presently to be described, or by both these measures conjointly. But here a difficulty sometimes arises, which is not in all cases surmounted by the ordinary means: the depletion, namely, may be inadequate to the requirements of the case. It is generally impossible, for instance, to apply more than half a dozen leeches, often not so many, to the cervix uteri at a time; for even should the number named be made to take hold, the capacity of the speculum prevents the adequate distension of their bodies, so that some of them fall off when but partially filled. The quantity of blood obtained in this way, including the escape which takes place subsequently during the short time the speculum remains undisturbed, amounts at most to three or four ounces, often not nearly so much. And although the bleeding in a few instances continues in considerable quantity several hours afterwards, in perhaps four out of every five cases it is not so, the discharge ceasing shortly after the instrument has been removed. It would of course be an easy matter to apply a second batch of leeches immediately; but this is likely to occupy more time than the practitioner, who is generally obliged to manage the procedure himself, has to spare: moreover, the required posture becomes too irksome for the patient to tolerate for so long a time with any degree of comfort. With a view successfully to encounter the difficulty in question, therefore, I have devised an instrument by the aid of which depletion from the uterus may be materially facilitated.



This apparatus,* a species of cupping instrument, represented in the adjoining plate, consists of a tube (*a*), similar in shape and dimensions to an ordinary-sized speculum, having a shoulder of glass placed half an inch from its outer or large extremity, from which shoulder outwards the surface of the tube is nicely ground, in order that it may be adapted to the mouth of a gourd-shaped bulb (*b*), also ground on its inner aspect, and within which the tube is received and accurately fitted. The adaptation may be more perfectly secured by previously coating the opposing surfaces with pomatum. The bulb is also provided with a small tube projecting from its neck, to which a stop-cock is fitted, intended for the application of an exhausting syringe (*c*), to be used at pleasure.

When it is judged necessary to augment the discharge of blood after the application of leeches, the speculum must be immediately replaced by the tube of the cupping apparatus, care being taken that the cervix uteri be fairly received within its upper aperture. The bulb, into which a small piece of burning lint saturated with spirit has been thrown, must then be adapted. If the connection shall have been well secured, a powerful suction is speedily produced, sufficient to continue the bleeding to a considerable amount. It will generally be found necessary, however, after a short time, to renew the exhaustion by the aid of the syringe, which can be done with facility, and in this manner any required quantity of blood may be obtained without loss of time.

The above is the course I formerly pursued; but I now usually dispense with the aid of spirit as an exhausting agent, and employ the syringe alone. Generally speaking, however, the cupping apparatus will not be required when leeching is practised at the juncture above recommended, especially if menstruation, although previously accompanied with an insufficient evacuation, have been regularly repeated, as the organic discharge during the impending crisis usually becomes more free and plentiful after such operation, and not unfrequently, indeed, forms a continuation of that which had been artificially commenced. Its assistance will be found to be most beneficial, in cases requiring depletion during the free catamenial intervals, or when the periods are irregular and uncertain, and the catamenia very scanty, or altogether suppressed.

But the cupping apparatus can be made available without the aid of leeches. It may be used with scarification, the cervix being first punctured in several places with a lancet, or the inner cervix being scarified either with this, or, what is still better, by means of Simpson's concealed bistoury, and bleeding promoted in the manner already noticed. This is a more expeditious mode of effecting depletion; but the blood does not generally flow so freely from lancet punctures as it does from leech-bites. It will be amply sufficient, however, in the slighter forms of congestion.

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* Made by the Messrs. Wood, of Manchester. Since writing the above, I have several times made use of a cylinder provided with an exhausting piston, on the principle of Mons. Alexander's artificial leech: this, however, is very insufficient for the purpose required.

There are cases, moreover, wherein the apparatus in question can be advantageously employed without either leeching or scarification. In debilitated subjects suffering from congestive dysmenorrhœa, it may be used with great benefit, for the purpose of bringing the exhalent function of the uterus into more vigorous and efficient action. For the attainment of this end it must be applied at the commencement or during the existence of menstruation, and repeated daily for two, three, or more days in succession. It generally happens in such cases, if the instrument be well managed, that the discharge, if it has already commenced, is at once augmented, and will continue to flow more or less freely for some hours, accompanied with corresponding relief to the sufferings of the patient.

In any of the modifications of congestive dysmenorrhœa now alluded to, the aid of constitutional treatment will be found necessary for a length of time, and the local appliances will also, in all likelihood, have to be called into requisition during more than one menstrual crisis, ere the function be fully established.

The detail of a number of cases of congestive dysmenorrhœa, in which the treatment was aided by the cupping apparatus, would doubtless be irksome to the reader: I shall therefore content myself with a brief notice of the two following instances of the kind: the first as being the one in which this auxiliary was first attempted; the second, because it was associated with anterior displacement of the uterus in the absence of pregnancy—a condition which, like that of retroversion, to whose frequent occurrence Dr. Rigby, Professor Simpson, and others, bear convincing testimony, is oftener met with than many may be willing to admit.

Case I.—A lady, now 35 years of ge, of the sanguine bilious temperament, and full habit of body, has borne three children at the full term of utero-gestation. During each pregnancy she suffered from bilious vomiting, yellowness of the skin, and œdematous limbs, which were also varicose in their entire extent, from pelvis to foot. The lochial evacuation during the puerperal period had always been scanty, the abdomen remaining tumid and tender, and the menstrua, on being re-established, were deficient in quantity, aud attended with pain. When half advanced in her last pregnancy, in November, 1844, a vein in the left leg inflamed and burst, leaving an ulcer, which in course of time became of large size, extending half way round the limb. After the loss of her child, who died in infancy, menstruation returned at the proper time; but the evacuation, as formerly, was scanty, and attended with suffering. The body underwent but little emaciation, although the health was infirm, and the ulcer, which continued large, and discharged freely, was the seat of a vicarious sanguinolent escape during the periodical changes. A slight leucorrhœa prevailed throughout the free menstrual intervals. Constitutional treatment was adopted, and the usual appliances made, with a view to improve the ulcer, which gradually became less, and was completely healed at the end of 1846, having existed nearly two years.

In August, 1847, although she had availed herself of additional professional advice, and spent a great part of the preceding spring and summer at at the sea-side and elsewhere, her general health was manifestly in a worse condition than at any previous period. The appetite was impaired; the abdomen tumid and painful; she complained of hæmorrhoids within the bowel, whence discharges of blood occasionally took place, which were always followed by temporary alleviation of her sufferings. The urine was deficient in quantity, and occasionally high-coloured or muddy. Menstruation was still attended with severe lumbar and hypogastric pain, the discharge being small in quantity, but always unmixed with skins or coagula. A sense of weight and bearing down was constantly present; there was also an œdematous state of the lower extremities, upon which the ramifications of the superficial veins could be readily traced. At this period she was prevailed upon to allow a specular examination of the uterus, which was found unusually large and weighty, and painful under moderate pressure: its lower section, occupied by a granulating surface, was too bulky to be admitted within the orifice of a large-sized instrument. She was now freely bled, by means of leeches, from the abdomen; the nitrate of silver was repeatedly applied to the ulcerated surface; and Plummer's pill, with evacuants, were given internally. Under this plan of treatment she progressed favourably, and in three weeks the ulceration of the uterus was healed, and the leucorrhœa almost entirely arrested. This improvement, however, was not of long duration. All the old symptoms shortly returned with equal or increased severity, except that the surface of the cervix continued unbroken, although the uterus was as tumid as ever.

I now applied five leeches to the cervix uteri, which afforded more decided relief than the patient had ever before experienced from the use of remedial measures. Encouraged by this result, the procedure was several times repeated at suitable intervals, and always with additional benefit. It was on one of these occasions, feeling dissatisfied with the insufficient quantity of blood withdrawn at a time—the discharge always ceasing immediately after the tube was removed—that I carried with me a common gourd-shaped cupping glass, the rim of the mouth of which had been previously tipped with a ring of india-rubber, with a view to render its accurate adaptation to the orifice of the speculum easily practicable. On the parts being properly adjusted after the leeches had separated, and maintained by the hand—the contained air of the bulb having been previously rarified by means of a spirit flame—I had the gratification to find, after a brief interval, that the glass contained a considerable quantity of blood. From this period the patient's health improved; the abdominal swelling subsided; the appetite was quickened, digestion relieved, and she felt as if a heavy load had been removed from her body. It must be mentioned that during this time constitutional remedies were actively employed, of which one, consisting of calomel and antimony, was continued until the system bore divided indications of its specific action. This patient has continued to enjoy a comfortable state of health ever since.

Case II.—A lady, 28 years of age, of spare habit of body, has been married five years, but was never pregnant. From puberty until marriage she was the subject of an impaired state of health, obviously attributable to a faulty discharge of the uterine functions. Menstruation at its onset was with difficulty brought about; and, although the changes were afterwards periodically repeated, the product was scanty, thick, and dark coloured, attended with hysterical suffering, feverishness, fretfulness, irritable bladder, prostration, and followed by leucorrhœa. Her health appeared to be somewhat bettered for upwards of a year after marriage, but again declined: the increasing urgency of the symptoms indicating the progressive development of dysmenorrhœa in an exaggerated degree.

She first came under my notice at the beginning of the present year, 1849, with the train of complaints above described. The preceding menstrual period had been attended with more pain and less of the organic product than usual, leaving the abdomen enlarged and tender. The irritable state of the bladder had become especially troublesome, obliging her to rise six or eight times in the course of each night, for the purpose of voiding the urine. Coition was painful, and without gratification. The catamenia had been of late mixed with clots, but at no time with skins or membranes. The digestive organs were enfeebled, the general health was much impaired, and she was unable to take exercise out of the house. Upon tactile and specular examination, the lower section of the uterus was found considerably enlarged, but without abrasion of surface, except at the margin of the os uteri, where it was slightly granular and irritable. The vagina was hot and tumid, and a painful sense of fulness was complained of about the rectum. The orificium uteri was sufficiently capacious to admit freely the largest sized urethral bougie, although the uterine sound bent at the usual angle, after persevering attempts, could not be made to pass beyond the extent of three-quarters of an inch within it; from which circumstance I judged, in the first instance, that either there must be stricture of the cervix high up, or else, provided the sound had impinged at the point where it was arrested against the fundus of the uterus, that the dimensions of this organ were considerably below the ordinary standard. In both these points my conjectures were astray, as will presently appear. The immediate abstraction of five or six ounces of blood by means of scarification and cupping, was followed by manifest relief. A grain of calomel, combined with a quarter of a grain of antimony, was ordered to be given night and morning, and a saline aperient twice a day. At the end of five days all the symptoms were considerably mitigated; the pain and fulness of the abdomen had disappeared, the bladder was less irritable, and the tumefaction of the uterus diminished. The os uteri was now noticed to be thrown backwards towards the hollow of the sacrum; the boundaries of the cervix, by careful manipulation, could be easily defined, passing upwards to the extent of about an inch in the direction of the upper pelvic aperture. Higher and more anteriorly still, it was found to be continuous with a firm bulging tumor, which seemed to occupy the region of the bladder, above and behind the pubis. The uterine sound still refused to pass, however, beyond the extent already noticed. Entertaining now the impression that the organ was in a state of antiflexion, there being a distinct sulcus between its neck and the tumor with which it appeared to be directly continuous, I now used a flexible bougie of the smallest size, which passed without hindrance to the extent of at least two inches and a quarter, but in what precise direction could not be ascertained. This point was soon set at rest, however, by the aid of a metallic stem of moderate calibre, being bent in such a manner as to bring its blunt end into a direction rectangular with that of the shaft. This instrument also passed without the least difficulty in a direction towards the pubis, to a similar depth as the bougie had done before: thus satisfactorily proving that the cavity of the organ, as regards its dimensions, was normal, and revealing also the nature and extent of its displacement,—a complication which, on account of the swollen and irritable state of the parts on the occasion of the first inquiry, was not previously ascertained to exist. At the end of about four weeks, menstruation having been once performed in the meantime with comparative ease, the body of the uterus had become small and perfectly moveable, and could be maintained in its natural position with the aid of Professor Simpson's metallic support, the presence of which occasioned neither pain or inconvenience.

From the preceding observations, these conclusions appear to be fairly deducible:—

1st. That there is a form of dysmenorrhœa, unaccompanied with specific structural change, which differs in its pathology from the two forms hitherto acknowledged, by the absence of those adventitious structures which sometimes escape along with the catamenial current, on the one hand; and, on the other, in having the lower uterine canal free from all obstruction or impediment of a mechanical nature,—conditions which characterise these two morbid states respectively.

2nd. That the form of disease which I have attempted to describe depends upon a congested state of the vascular system of the uterus, similar to what obtains in the preliminary stage of metritis; and which condition may be designated, until a more suitable term be suggested, congestive dysmenorrhœa.

3rd. That this condition is capable of materially interfering with the function of reproduction, and may be a cause, so long as it exists, of sterility.

Oxford Street, Manchester,
March 15, 1849.

ROYAL COLLEGE OF SURGEONS.

The following Members of the College were admitted Fellows at the meeting of the Council on the 11th inst:—Edgar Barker, Edgware Road — Henry Butler, Hobart Town, Van Dieman's Land—William Henry Colborne, Chippenham—John Cooper Forster, Wellington Street, Southwark—John Havers, Bedford Place, Russell Square—Thomas Brooks Larkins, Hon. East India Company's Bombay Service—Arthur Sarjeant, Meriden, Warwickshire.

NOTICE ON THE CHOLERA IN RUSSIA IN 1848.

By Dr. Mackenzie,

Senior Surgeon to the Naval Hospital at Archangel.

[Concluded from p. 589.]

Part IV.

Analysis of the fluids in the alimentary canal—of the bile, urine, and blood—Medical statistics of cholera at Archangel.

It may not be out of place here, to give the analysis of the alvine evacuations of the bile, urine, and blood, in epidemic cholera, as determined by Professor Chardienko, of the University of Charkoff, and published in the Military Gazette of St. Petersburgh, for March 1848.

Professor Chardienko very happily remarks, that in epidemic cholera the process of nutrition seems to be reversed, not only as far as the vomiting and purging are concerned, but because of the absorption of the tissues, which, finding their way by a reversed order of things into the alimentary canal, as he has proven experimentally, are ejected in the evacuations. This chemist has also found by analysis that the excretions of the skin and of the kidneys, which are suppressed in cholera, are eliminated by this channel, being, probably, a natural effort of compensation.

Analysis of the fluid found in the alimentary canal.—Fatty matter, margarin, olein, butyrin, cholic acid, soluble in alcohol, insoluble in ether; extractive matter of muscle; lactates, of soda, ammonia, and urea; oleic acid in combination with ammonia; chloride of sodium; sulphates of potass and soda; phosphates of soda, lime, and magnesia and ammonia; albumen, mucus, colouring principle of bile and of blood, and traces of iron.

The contents of the stomach are nearly the same as the above: they contain a free acid, less ammonia, and still less urea.

He says that the alimentary canal seems peculiarly adapted to the excretion of urea and ammonia; the acidity of the contents of the stomach, in proportion as they descend in the intestines, diminishes.

An analysis of the bile led to the detection of the following substances:—Fat, margarin, olein, butyrin; cholic acid (acidum choloidinicum) insoluble in ether and water; lactic and cholic acids combined with soda; lactate of ammonia; cholesterine; colouring principle of bile (bilipheine); urea; chlorides of sodium and potassium; sulphate of potass; phosphates of soda and lime; mucus.

The bile had deviated in composition greatly from the normal standard; the colouring principle is considerably changed, being much diminished. Nitric acid added to a solution of bile produced a very faint reaction: the main alteration is to be ascribed to lactic acid, which, by combining with a portion of the soda, precipitates cholic acid, with which the soda was combined.

Urine. — The urine analysed was taken from a patient who had been bled with considerable relief.

The urine was of a pale greenish colour; remained clear for a long time; had an acid reaction, which it preserved for several days; specific gravity 1014, next day 1015; ten days after the crisis 1012. Nit. acid turned it of a light purple colour. Under the microscope it did not show the crystallization of normal urine; only the long crystallized needles of urea, condensed by evaporation. Nitric acid threw down nit. of urea.

In 1000 parts, he found, of fatty matter, free lactic acid, lactate of ammonia, chloride of sodium (little), and extractive matter, 25.47, all being soluble in alcohol.

Phosphate of soda; sulphates of soda and potass; mucus, obtained from a watery solution, 8.35; uric acid, 0.5; phosphate of lime and magnesia, scarcely a trace.

Blood.—Professor Chardienko had had few opportunities of analyzing choleric blood; he found it to yield very little serum of an amber colour, which, passed slowly through the filter, grew soon turbid, from albumen separating, had an alkaline reaction, coagulated quickly by heat, and appeared as if wholly consisting of albumen.

He could not find a trace of urea, which is contrary to the results obtained by Dr. O'Shaughnessy.

In the alvine evacuations he found a great quantity of fat, the result doubtless of absorption, which being in minute division, may give them the rice colour.

He finds that the secretion of bile is by no means diminished, but rather increased, though rendered imperceptible by extreme dilution. I confess that I am rather sceptical on this point. The crisis takes place invariably by a flow of bile, which becomes perceptible however diluted.

He found also in the evacuations the extractive matter of muscle. From the absorption of the tissues which takes place, he is inclined to think that the spissitude of the blood may be still further increased.

Table of the Sick of Epidemic Cholera, in Sollombol, the port of Archangel, in 1831.

	Entered.	Recovered.	Died.
In the Naval Hospital:—			
Officers	13	6	7
Dockyard men and Marines	420	228	192
Soldiers' (or Marines') wives and children	73	19	54
Civilians, including 50 foreign sailors .	90	40	50
At their homes:—			
Officers	18	16	2
Officers' wives and children	4	1	3
Civilians	70	28	42
Civilians' wives and children	81	7	74
Total	769	345	424

The number of inhabitants may be estimated as follows:—

Civilians, including retired soldiers . . .	6,000
Marines or Dockyard men	5,000
Crews of two ships of the line	1,000
In all . . .	12,000

In 1848, *from* 8*th July to* 7*th September*.

	Entered.	Recovered.	Died.
In Naval Hospital:—			
Marines, &c.	242	103	136
In this number there were—			
Females of all ages	33	6	27
Girls under age	7	3	4
Boys from 9 to 15 years	15	10	5
At their homes:—			
Males	108	73	35
Females	149	86	63
	257	159	98

The number of inhabitants this year (1848) in Sollombol, including about 5000 dockyard-men, may be estimated at 12000.

Of 5000 marines and dockyard-men, 166 caught the disease, and 90 died,—so that 1 in $30\frac{10}{83}$ sickened, and 1 in $55\frac{5}{9}$ perished.

Of sixteen individuals belonging to the hospital, who attended on or visited the sick, *six* caught the disease severely, and two slightly, of whom two died. While this proves the existence of infection, it clearly shows what timely aid can do in curing the disease, as all, except one, had had timely assistance given them.

It is clear from this table that females bear the disease worse than males, and boys better than adults.

In the majority of cases from ten to twenty-four hours had elapsed between the seizure, and the sick being brought to the hospital.

When people have learnt how to take care of themselves during the prevalence of the epidemy, to recognise its first approaches, and to know what measures to take, there is little doubt that the mortality will be greatly diminished.

It is worthy of remark, that of those who had had intermittent fever in the spring, none, to the best of our knowledge, caught the cholera; and I learn from Dr. Stern, that in the district of Shenkursk, where this fever raged epidemically in the spring—so much so, that out of 50,000 inhabitants, he had had 1500 cases—the only village which suffered from epidemic cholera was one which had escaped the visitation of intermittent fever.

⁂ An interesting series of meteorological tables, including a daily record of the state of the barometer, thermometer, and anemometer, is appended to this report, as well as a statistical report of the progress and mortality of the cholera during the period over which the disease prevailed. We do not print these, because, as we have elsewhere observed, there appears to be no certain relation between the state of the weather and the course of the disease. It is worthy of note, that *six* out of *sixteen* attendants on the sick were attacked by cholera! Our Board of Works relied much upon the allegation that attendants on the sick were not attacked as evidence of *non*-contagion. The facts observed by Dr. Mackenzie prove the contrary.—Ed. Gaz.

TOBACCO IN THE TREATMENT OF CHOLERA.

Dr. John W. Moore states in a Mobile paper that he cured 100 or more extreme cases of cholera, not losing one, by the use of tobacco. He administered it in the form of an enema of the strength of one drachm to the pint. He first tried it upon a negro whose pulse was gone, his tongue cold, and his muscles so rigid that he rested on his head and heels. In five minutes he was relieved, and the cure was perfected by his drinking a decoction of senna. In his own case Dr. Moore took into his stomach a spoonful of the tobacco decoction, with perfect relief from cramp and diarrhœa. He has no doubt that cholera may be as easily managed as the fevers of our country. —*Boston Med. Journal*, 1849.

OBSERVATIONS ON THE

DEVELOPMENT AND COMPARATIVE ANATOMY OF THE ORGAN OF HEARING.

By J. D. Macdonald, Esq.

King's College.

In a series of investigations made on the organ of hearing in very young kittens, with a view of ascertaining the mode of development of its several parts (especially the osseous portions), the writer has observed the following points:—

First, with regard to the *ossicula auditus*, that ossification proceeds from without inwards; *i. e.* the *malleus* is first completed, and next in order comes the *incus:* while the *stapes* is found soft and flexible at birth, and bathed in a thick albuminous fluid, which fills the tympanic cavity. Ossific matter seems first to be deposited in the central part of these small bones, and subsequently extends to their extremities.

Secondly, respecting the labyrinth, the vestibule was completely ossified at birth: while the *cochlea* presented an osseous saccule, communicating with the vestibule, and having a central bony core corresponding to the *modiolus* and *lamina spiralis ossea*, all the rest of the organ, with the exception of a small portion of the spiral tube composing it, was membraneous.

The semi-circular canals were yet imperfectly ossified, being only complete where they open into the vestibule. They were imbedded in a semi-cartilaginous substance, composing the base of the petrous portion of the temporal bone, which is united to the mastoid and squamous divisions at this period by a kind of articular surface.

As ossification in the semi-circular canals proceeds, the modiolus and lower portion of the spiral lamina are being completed, so that they appear, as above stated, like a bony core in the centre of the saccule of the cochlea, and connected with its walls by two membraneous laminæ, placed one above the other, which wind edgeways spirally round it. One of these laminæ forms, with the modiolus and saccule, part of the *parietes* of the common tube, which, by its turns, or *gyri*, mainly composes the cochlea. The first part of this tube—*i. e.* somewhat more than the first half turn—is completely ossified at birth, but from this point forward it gradually becomes deficient in bony matter; the membraneous *lamina* remaining unossified towards the summit of the cochlea, where it terminates in a kind of *hamulus* or hooked extremity, the convexity of which is attached to the side of the cupola, while the concavity is free, looking towards the centre of that space.

The other *lamina* above mentioned lies superior to the last described, and retains its character as the membraneous spiral lamina externally, or where it is attached to the walls of the saccule; but internally, where it is united to the *modiolus*, it becomes bony, and thus the osseous spiral lamina is formed. In this latter, bony matter shoots forth in irregular rays from the central axis, progressing in a direction from the base towards the apex of the cochlea: a well-defined line may be seen running longitudinally upon the membraneous lamina, where the osseous portion remains imperfect, which mechanically (?) limits its future extent. This lamina gradually inclines towards that first noticed, and about the middle of the second turn of the cochlea comes in contact with it by its outer edge, and eventually completely lies upon it; and thus, continuing onwards, forms the upper surface of the *hamulus* above described, at the free border of which the two membranes become continuous.

The vault of the cupola is very extensive, as the modiolus does not reach farther than the root of the *membraneous hamulus*, where a little bony hook may be found to exist. This is the true homologue of the hamulus as observed in the human subject, and beneath it is observable the helicotrema proper, a very small and elongated aperture, which it bounds externally; the aborted central axis, that is here membraneous or imperfectly ossified, forming its inner margin. This small hole leads to the scala tympani, while the open passage beneath the membraneous hamulus leads from the cupola into the scala vestibuli.

The extent of the scala vestibuli and scala tympani may be considered as equal; for what the former gains at the apex of the cochlea in forming the cupola is compensated for in the latter by its extension outwards at the base of that organ, where it communicates with the tympanum. But the calibre of the two scalæ is very different when they are contrasted at any part: thus, the scala vestibuli varies very little in its entire extent; while the scala tympani, from being very capacious at its lower part, tapers away towards its upper extremity, and ultimately becomes so small and compressed, as almost to lead to the conviction that it was obliterated before it could reach the helicotrema. This, of course, results from the approximation of the true spiral lamina to that which enters into the formation of the common tube of the cochlea, as already described.

The eminence in the internal wall of the tympanum, called the promontory, projects outwards considerably, in consequence of the bulk of the scala tympani at its base. This fact would lead to the supposition that the fenestra rotunda must also be proportionably large; and such is the case, it being about three times as large as the fenestra ovalis, which is a mere slit in appearance.

Looking upon the apex of the cochlea, the arch of the cupola having been removed, two openings may be observed (briefly alluded to above): first, the helicotrema proper, which lies towards the central axis on the inner side of the *osseous hamulus;* and, secondly, the upper orifice of the scala vestibuli, separated from the former internally, and bounded above by the concave edge of the *membraneous hamulus*, the walls of the saccule, and the upper surface of the spiral lamina, soon after the commencement of the second gyrus circumscribing it externally and inferiorly. These openings may be respectively named the cochlear and vestibular helicotremæ, the latter being many degrees larger than the former; so that, should a fluid be poured into the cupola, it will pass into the vestibular rather than the tympanic *scala*.

The greater part of the interior of the labyrinth is lined by a dense and apparently unorganized deposit of earthy matter. The bony spiral lamina, under a low magnifying power, presented the appearance of a close and irregular network, having a radiating arrangement of its meshes from the centre, or modiolus, to the outer border of the lamina, the density of which increases from without inwards. The centre of the modiolus was hollow, containing the cochlear nerve. The bony tubules which envelope the nerve filaments in the perfect organ were not formed at birth. The orifices by which the cochlear nerve reaches the spiral lamina, and the grooves which the nerve tubes occupy in passing to the lamina, tend towards its under surface. This fact, which is of great importance in the study of the physiology of the organ, has been demonstrated by Dr. Todd and Mr. Bowman in their Physiology, and it would lead to the supposition that the cochlear nerve is thus specially adapted to receive the vibrations communicated to the scala tympani through the *membrana fenestræ rotundæ*. The scala vestibuli, as a means of communication with the vestibule, answers other purposes, which we have noticed in a former communication.

The common tube of the cochlea in the kitten forms very little more than two complete turns or gyri. The transverse measurement of the entire coil at its base appears to equal the vertical. A strong contrast is believed to exist between the cochlea of the cat and dog in this respect, by some anatomists, who consider the organ in the latter animal to be much more prominent towards the tympanum than in the former, its vertical diameter exceeding the transverse. This, however, has not appeared to the writer in the cochlea of the puppy of a black and tan species of terrier which he has had the opportunity of examining for comparison with that of the kitten; and so near do the characters of both seem to correspond, that a perfect idea of one may be formed from a description of the other. I may be allowed here to observe that the best way of preparing the cochlea for examination is to separate the petrous from the other portions of the temporal bone (this may be very easily done in the very young animal, as it is only connected with them by a cartilaginous material), and setting it aside in its recent state (*i. e.* without maceration) to dry; by this means the fluid matters will evaporate, and the internal parts will become tough, and fit for dissection. Of course the vessels and nerves would require a special preparation for their investigation; and the more minutely injected and the fresher the organ is for these purposes, the better; but, for the study of the osseous and membranous parts forming the frame-work of the cochlea, simple drying will suffice; so that, with a moderately strong needle, it may (when dried) be opened at the apex, and so the dissector may proceed downwards to the base, detaching its external brittle walls from the tough membraneous laminæ, which will be found to hold their original position. Should the precaution of commencing at the apex be not attended to, the organ may give way in parts which it might be an advantage to preserve.

The writer first examined some cochleæ of young kittens which had been some time subjected to maceration, and the result was, that the spiral lamina and modeolus having come quite away, the appearance presented was as though no spiral lamina had existed at the period of birth, and a spiral sulcus had supplied its place. However the doctrine may prevail, that the part called the modeolus has no real existence, as Ilg and others affirm, who consider it to be nothing more than the inner wall of the common tube, it is certain that in the kitten, before this tube is completely ossified, a bony pillar or core occupies the axis of the cochlea.

ON THE

INHALATION OF NITRATE OF SILVER

AND OTHER MECHANICAL AGENTS.

By Thomas K. Chambers, M.D.
Fellow of the Royal College of Physicians.

While treating diseases in those parts of the mucous membranes which are sufficiently exposed to sight and touch for the immediate application of remedial agents, there are few to whom the wish has not occurred, that equal facilities were afforded of directly influencing the deeper-seated continuations of the same fabric. The powerful remedies which restore so quickly to a healthy state the conjunctiva and the fauces, would probably act with equal rapidity and success on the stomach and bronchi, could we apply them rightly to the right spot, and attack the local disease without passing circuitously through the whole system. A mode I have lately adopted of attaining this end with the most inaccessible mucous surface of all, the pulmonary, though it is clumsy and imperfect, may still be found useful in some obstinate cases, where the upper part of the air-tubes is the principal seat of disease.

The plan consists in the inhalation of a light innocuous powder, which may carry with it the required substance, either diffused in the air or absorbed in its pores. That which I have found well suited to the purpose is the pollen of the lycopodium or club-moss, which has been allowed to imbibe as much as it would take up of a saturated solution of nitrate of silver, or of sulphate of copper, or the two combined, and then carefully dried, and reduced again to an impalpable powder. Mr. Squire has made me some which, in two grains and a half, contains one grain of nitrate of silver, and another which in five grains contains one of nitrate of silver and two of sulphate of copper. The patient should introduce into his mouth, as far as he can without choking, a well-dried glass funnel, and draw in his breath strongly, whilst he himself, or a second party, dusts the powder in a dense cloud into the large end with an ordinary nursery puff ball. If the dust is raised by an attendant, the patient can indicate the moment he inspires by raising his hand.

To obviate the necessity for withdrawing the funnel after each inhalation, to prevent the dust being blown about the room, an apparatus with a double valve and a closed powder-box may be used, which allows the dust to pass inwards only; but the necessary employment of metal makes the machine less agreeable than the more awkward but cleanerlooking and less formidable glass.

There is usually a slight degree of coughing excited by the dusty vehicle, but not of such moment as to prevent an immediate repetition of the experiment. This is certainly an inconvenience, but it seems a much smaller one than that which attends the introduction of a sponge into the larynx, as has been recommended. The spasm excited by this is distressing to the operator and painful to the patient, and prevents its employment in slighter cases, where the remedy appears to both as bad as the disease. Moreover, the operation is a very difficult one, requiring a rapid accuracy, a spirited tenderness of touch, as artists call it, which is the lot of few, and is seldom retained at that period of life when the intellect is most matured, but when the brush, the burin, and the scalpel, are handled with more judgment indeed, but with less elegance and delicacy.

1, Hill Street, Berkeley Square,
March 30, 1849.

ON THE

PANCREATIC JUICE,

AND THE RECENT DISCOVERIES OF M. BERNARD.

By John Charles Hall, M.D.,
Fellow of the Royal College of Physicians, Edinburgh; Author of "Remarks on the Treatment of some of the more Important Diseases," &c. &c. &c.

That we are "wonderfully and fearfully made," has long been a fact known to the most careless and ignorant observers. Recent investigations—chemistry and the microscope—have, and daily are, bringing more and more to light, evidences of the wisdom, power, and goodness of the Great Creator—of the adaptation of means to the production of certain ends; and the day will come, nor is it very distant, when parts of our mechanism, parts once regarded as useless or unimportant in the animal economy, will be found of the greatest utility.

These remarks have suggested themselves to my mind on reading an account of the recent investigations of Dr. Charles Bernard (to whom we are also indebted for a series of the most interesting experiments on the origin of sugar in the animal economy[*]), who has, as will be seen in the present paper, very clearly demonstrated that the *office of the pancreatic fluid is a special one*, and *that it is indispensable to the absorption of fatty matters and the production of chyle.*

Of the diseases of the pancreas little is known. Dr. Watson[†] remarks, "It may seem a slight to the pancreas to pass it over without noticing the diseases to which it is subject; but really these diseases appear to be but few, and they do not signify their existence by any plain and intelligible signs. I have nine or ten times, perhaps, in my life, met with carcinomatous deposits in the pancreas, and I have known this disease to cause jaundice, by obstructing the bile ducts; and I have known it, in the same way, to occasion very great enlargement of the liver itself. .... As to remedies for pancreatic diseases, or disorders, I do not know of any." Dr. Elliotson says, "all its diseases are structural."* Dr. Baillie once saw an abscess in it.† The symptoms of pancreatic disease are described by Dr. Pemberton as "deep-seated pain in the epigastric region, especially if one hand be placed on the back, and the other on the stomach; but I should think, in general, it must be a mere guess, even if the person be right when he pronounces that the patient is labouring under disease of the pancreas."‡ Dr. Elliotson had a patient in which, after death, he discovered calculi in the pancreatic duct, "at least one hundred." Dr. Wollaston has analysed pancreatic calculi, and found them to consist of carbonate of lime in the human species, and phosphate of lime in the ox.

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[*] Vide l'Union Médicale, 1848, No. 141.

[†] Lectures in the Medical Gazette, now published, 3d edition, vol. ii. p. 562

It is very clear that, at present, we know nothing of the diseases of this organ. The important discovery, however, of M. Bernard, will lead, doubtless, to more attentive examination; and its peculiar action on fatty matters will at any rate supply one means for discovering, during life, a more easy way of detecting the existence of disease in this organ.

Did time permit, it would be very interesting to enter at some length into what is known of the structure of this organ, commencing with its development in the chick from its "formative mass."§ It must for the present, however, suffice to say, that we may almost regard the pancreas as an organ peculiar to the vertebrate classes of animals; the only exceptions of which I am aware, are the two light-red lobulated glands attached to the biliary ducts in the Loligo sagitata, described by Dr. Grant. The former experiments of Mayer, Magendie, and Tiedemann, with regard to the pancreatic secretion in the higher animals, are confirmed by M. Bernard, who proves that it is alkaline, and coagulable by heat. M. A. Schultz found the pancreatic secretion of the dog, cat, and horse, acid; once only it was neutral in the dog. Gmelin says, the pancreatic secretion contains a large quantity of albumen, *while no sulphocyanic salts*, which the saliva is said to contain, can be detected in it. The solid matter which it holds in solution amounts, in the dog, to 8·72 per cent.; in the sheep, to from 4 to 5 per cent. The solid contents are—1, osmazome; 2, a matter which is reddened by chlorine, and which is found only in the dog and sheep; 3, a substance resembling caseine, combined probably with salivary matter; 4, a large quantity of albumen, amounting to about half of the dry residuum; 5, a very small proportion of free acid, probably acetic acid.

I next propose to give an outline of M. C. Bernard's communication, which cannot fail to alter many of the views formerly entertained with regard to the theory of digestion. In his communication to the *Académie des Sciences*, after some general observations as to the anatomy of the pancreas, M. Bernard proceeds to remark, that in the abdominal cavity we find, where the alimentary canal is developed in long folds, nature has placed several accessory organs; such as the liver, the spleen, and the pancreas. The liver secretes bile, and the pancreas pours into the intestines a viscid fluid, which very much resembles the saliva. "It is this which hitherto has made it considered an abdominal salivary gland;" but the researches of this physiologist render it certain that the pancreas has another most important use, in which it altogether differs from both the submaxillary and sub-lingual glands. From the truly interesting and very beautiful experiments of M. C. Bernard, it appears the pancreatic juice, independent of the other fluids of the intestines, is destined to produce the digestion of the fatty matters taken in the food, and to assist their absorption during their passage through the lacteals.

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* Practice of Physic, 1098.

† Morbid Anatomy, chap. 12.

‡ Practical Treatise on various Diseases of the Abdominal Viscera, by E. Pemberton, M.D. 3d edit. chap. iv. p. 63.

§ Reichert on the Development of the Chick.

* Tiedemann and Gmelin.

After removing the abdominal coverings in the manner adopted in the well-known experiments performed by M. Magendie, under favourable circumstances, a considerable quantity of the pancreatic juice, in a pure state, was obtained on several occasions.

The pancreatic juice is a clear colourless liquid, viscid and sticking, "flowing in large pearly drops, becoming frothy by agitation. It is without any characteristic odour; its contact with the tongue imparts the same sensation as a sticky fluid; its taste is always saltish, resembling the serum of the blood, and it has at all times an alkaline reaction. It is coagulated by the application of heat, forming dense white concrete masses: the coagulation is complete, acting as on the white of an egg. It is precipitated also by the application of concentrated nitric, sulphuric, and muriatic acids." The organic matters contained in the pancreatic juice become in like manner completely coagulated on the addition of pyroligneous acid, spirit of wine, and metallic salts. "No precipitate is produced by alkalies, which, however, possess the power of redissolving it after its coagulation by heat, acids, and alcohol. Hitherto it has been considered simply as having a resemblance to albumen; but the pancreatic juice possesses this important distinction, that, after its complete coagulation by alcohol, if dried by a gentle heat, it may be again entirely redissolved in water—a property which albumen does not possess."

These physiological properties peculiar to this fluid are clearly demonstrated by a series of the most beautiful experiments; and there does appear little or no doubt but that the proper office of the pancreatic fluid is the absorption of fatty matters, and the formation of chyle. He found, "at a temperature of 38° to 40° (100° to 102° F.), on mixing the pancreatic juice with oil, butter, or grease, that it was observed that the fatty particles became completely emulsed (*se trouve instantément émulsionnée*), the liquid being of a creamy consistence and white colour, resembling the chyle; nor are these fatty matters simply divided or emulsed (*émulsionnée*), they have evidently undergone some peculiar transformation a property possessed by the pancreatic juice only." M. Bernard has tried the action of the bile, the saliva, the gastric juice, the serum of the blood, liquid from the arachnoid (*céphalo-rachidien*), on fatty matters, and not one of these liquids has had any effect on grease; and, if a morbid or altered juice be employed, it soon separates from the fatty substances, without exerting any marked influence upon them. These experiments, exhibited before M. Magendie and M. Andral, are no doubt altogether to be depended on.

The results of M. C. Bernard's experiments on healthy living animals may be briefly given thus:—If a dog be killed during a full digestion, oil will be found unchanged in its nature until it comes into contact with the pancreatic fluid. He has also proved the very important fact, that if the pancreatic ducts be tied, no change takes place. In a rabbit, the pancreatic canal (*canal pancréatique*) is of a peculiar formation, opening low down in the intestinal tube (35 centimetres [13·77 inches] under the choledochus). This is the discovery (perhaps I ought not exactly to term it a discovery) of M. Bernard, for experiments to shew that the chyle was rendered limpid by ligature of the choledochus, were made many years ago by Sir B. C. Brodie. The fact has since been ascertained, however, that in the cat the pancreatic duct anastomoses with the choledochus before opening into the intestine, and it is possible that this distinguished physiologist, then unaware of the circumstance, included both vessels in the ligature.[*] With regard to the cat it is also exceedingly interesting, and goes to remove the error so long entertained by physiologists, that the bile is the fluid by which fatty matters are acted upon—a property clearly proved by M. Bernard to belong *most exclusively* to the pancreatic juice, which must, therefore, now be regarded as the true agent by which fatty bodies are digested.

When fat is introduced into the stomach of the rabbit, the contact of the gastric juice produces no alteration, nor is it in any degree changed in its passage along the intestinal canal, until it arrives at that portion where it is brought into immediate contact with the gastric juice; and it is exactly at the mouth of the pancreatic canal (*l'abouchement du canal du pancréas*) that the lacteals convey chyle of a white colour: ***higher up they contain only chyle of a transparent hue*** (*chyle encore transparent*).

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[*] See Archives Générales, tom. xix. pp. 60-81.

No one can read these details, and not arrive at the same conclusion as Dr. Charles Bernard, that the pancreatic juice, hitherto considered as the abdominal saliva, the use of which was to soften the food, is in reality charged with the important office in the exhibition of the cod-liver oil, already alluded to. We know, also, that the best time to give it to the patient, is one or two hours after breakfast, after dinner, and after tea. If given at these times it does not occasion those disagreeable eructations which are apt to occur when it is taken either with, or immediately before, food; by taking it at this time we can now see how these eructations are avoided by the newly-discovered and peculiar action of the pancreatic juice. In practice, I have found it very important to be thus particular in fixing the time at which the cod-liver oil should be taken, more particularly in the diseases of children; and so far as my present experience enables me to speak, in no disease is cod-liver oil more valuable than in scrofula mesenterica.

Grove Street, East Retford.

CONTRACTION FROM BURNS.

These often cause sad disfigurations of the countenance, or mutilations of the extremities, and are exceedingly difficult of remedy. The treatment is to divide the band of adhesion, and give relief to the confined part, then to interpose a portion of sound integument, and keep the part in its natural position. Thus, if the chin is bound down to the neck or breast, the contracted cicatrix is to be freely divided, then a portion of sound skin is to be dissected from the vicinity, to correspond with the raw surface, and to be gently twisted at its root or isthmus of connection, and approximated by stitches to the sides of the integuments, bounding the raw surface. The sound integuments thus interposed between the chin and the neck, will prevent all risk of re-contraction. If there is no sound integument in the vicinity, the division of the cicatrix seldom affords relief.—*Lizars' Practical Surgery*, p. 158.

MEDICAL GAZETTE.

FRIDAY, APRIL 13, 1849.

A few years since great alarm was excited in the public mind by a succession of deaths from the use of cheap stoves, which had been "patented" for the combustion of charcoal without evolving any noxious or poisonous vapour. The fuel used was called "patent charcoal;" and the parties concerned in the sale of the apparatus, announced, in their earlier advertisements, that while burning, it did not evolve noxious or poisonous vapour, like common charcoal. When persons who had employed these stoves in close and ill-ventilated apartments were, some hours afterwards, found dead, it was alleged that they had died from an attack of apoplexy; and, if we mistake not, it was announced, on chemical authority, that the patent stove had no more effect in contaminating the air of a room than a common argand burner of oil or gas. The public, however, began to perceive that there was an uncomfortably close connexion between the occurrence of "apoplexy" and the use of the stove; and the sale of the patented article declined. The proprietors then suggested that, for sleeping apartments, it would be advisable to have a tube connected with the stove, so as to carry off the "patented" carbonic acid, which was proved to be evolved from the combustion of the prepared fuel. For some years past, the stoves have been chiefly employed for warming halls or apartments where there was a free current of air; and here no mischief was likely to ensue. The influence of a scientific error once circulated is, however, long felt; and there are, we believe, many well-informed persons who even now think that because they do not *see* the noxious gas evolved as smoke, and because injurious effects are not perceived *immediately*, the use of such stoves in close apartments is not so unsafe as it has been represented. The quantity of fuel consumed is, they allege, so small, that much carbonic acid cannot be produced; and therefore the use of the stove is not attended with danger.

We are induced to make these remarks from the fact that, according to the reports in the daily journals, three persons, who were female servants in a respectable family, have recently lost their lives by sleeping in a close room, in which one of these "patent" stoves had been placed for the purpose of warming it. The stove had been previously used in the hall of the house, and we suppose it was inferred that, because no harm had followed its use in this situation, it might be safely employed under any other circumstances. Be this as it may, it is clear that, after the repeated warnings which have been publicly given, such an accident could not have occurred except through the most lamentable ignorance or carelessness.

We need hardly remark that the patent stove is nothing more than a cylindrical iron vessel adapted for the perfect combustion of charcoal, and for the evolution of the maximum quantity of heat from a given weight of fuel. As no flue is employed, no heat is lost, and the metallic surface heated, is so disposed as to radiate the whole of that which is derived from combustion. The charcoal is entirely consumed under a very free access of air; hence the apparatus is cleanly, portable, and economical. In ordinary fire-places three-fourths of the heat escape by the flue, and are lost; hence, with a patent stove, a room is more speedily warmed, and at a much smaller expense. The only drawback is, that the use of the patent stove is liable to be followed by an attack of apoplexy, or what is vulgarly called "suffocation;" for the patent fuel gives off carbonic acid, which is just as destructive to life as that produced from common charcoal or coal. It will also give weight for weight an equal quantity, and will take just as much oxygen from the air as any other form of carbon. It is on this point we would give a word of caution to the very few who may still think that these stoves have been unjustly condemned. The fact that they consume comparatively but a small quantity of fuel does not divest them of danger. This is clearly established by the numerous cases of death which have been already reported. The heat given out, is in direct proportion to the quantity of oxygen consumed: hence the warmth, for the production of which they are employed, is obtained only by rendering the air of the room less fitted to support life. The oxygen, however, is not merely abstracted, but this gas is replaced in a precisely equal volume by carbonic acid, which is highly poisonous. Thus there are two causes of deterioration at work:—a gas essential to life is withdrawn, and another, which is destructive to life, takes its place. The time at which such an atmosphere will prove fatal to those breathing it, must of course depend on circumstances. Either the stove gives but little heat, and then it is useless for warmth, or it gives out much, and then it will very soon render destructive the air of a badly ventilated room. It is impossible to escape from one or the other of these conclusions; and the question to be practically considered is, whether it is better to encounter the risk of suffocation for the sake of saving three-fourths of the fuel, or to incur this loss, and thereby avoid exposing our lives to imminent hazard.

It must appear extraordinary to all who consider this subject, that the laws of a civilized country should actually allow a patent to a discovery or invention which is based on false principles, and which, if carried out, can only lead to the destruction of life. The principles concern the would-be-patentee; and as the fees paid to the state are rather heavy, there is no mischief done by a man paying down a certain sum to the revenue for the purpose of finding out that he has made a mistake. He thereby buys experience, and the public revenue is benefited. When the results of his patented invention are, however, likely to affect the lives of individuals, the great mass of whom are incapable of judging whether the principles on which it is based be true or false, safe or unsafe, then it is surely time to interfere. We should have supposed that a wise government would have privately consulted, under a pledge of secrecy if necessary, a committee of scientific persons, in order to determine whether a patent could or could not be safely granted; but facts daily prove that our Executive cannot take credit for such a humane and reasonable course of proceeding. The fees are paid, the patentee must repay himself, and the public must protect themselves against his invention in the best way they can. If a man declares that he can burn charcoal in air or oxygen without converting it to carbonic acid; and that the air thus burnt may be breathed without producing the noxious effects usually caused by burning fuel, he has credit for being able to work these chemical marvels,—the fees are paid, the patent is issued without further inquiry, and people are suffocated. This is certainly not as it should be; and the laxity which exists in this country with respect to the granting of patents, has perhaps never been more conspicuously shown than in reference to these stoves. The very fact of their use being thus as it were authorised by Government, has, we believe, been the main cause of their meeting with the patronage of the public.

Reviews.

The Hunterian Oration, delivered before the Royal College of Surgeons of England, on the 14th February, 1849. By Cæsar H. Hawkins, Surgeon to St. George's Hospital. Pamphlet, 8vo. pp. 35. London: Churchill. 1849.

An abstract of this oration was inserted in our pages immediately after its delivery. In the pamphlet before us we have it from the author's own pen, with the addition of some paragraphs which were then omitted. All who heard this oration will agree with us that it was a highly philosophical discourse, embracing not merely an account of Hunter and his doctrines, but a general review of the progress which scientific medicine has made since the days of that eminent physiologist. This is as it should be; and the fact sufficiently accounts for the well-marked approbation with which Mr. Hawkins's discourse was received by those who had assembled to hear it.

An acknowledged difficulty in medicine is to find out to whom a discovery is really due. What is sent forth as new has really often no claim to novelty, except among those who have not made themselves fully acquainted with the researches of others on the same subject. In the following paragraph Mr. Hawkins does justice to an eminent English chemist:—

> "The subject of the removal from the body of the worn-out materials of the frame, and of substances introduced in excess, furnishes a very remarkable instance—shall I say of want of patriotism, and gratitude to one of the fathers of organic chemistry, or of the influence of a mere change of language on the imagination? There is no doubt that the oxydation of the tissues, in the words of the illustrious German chemist, is altogether included in the secondary assimilation of Dr. Prout; that the latter most fully pointed out the physiological processes subsequent to sanguification, "the formative and destructive changes" in the solids and fluids of the animal economy, with the greater part of what is yet understood of their important bearings on patho-

> ogy, in reference to the several gelatinous, or albuminous, or oleaginous materials of the body, in the production of cutaneous diseases, of gangrenous inflammations, of calculous complaints, of gout and consumption, and many other disorders; and in many particulars, probably with greater accuracy than Liebig. It is, however, a common error to mistake fresh terms for new ideas, and merely altered explanations for real acquisition of knowledge." (p. 14-15.)

The absurdities perpetrated by the physico-physiologists of the last century, are well illustrated in the conflicting results respecting the force of the heart obtained from similar data by Borelli and Hales. It is well known that one reckoned it to be equal to 180,000 pounds, and the other to *five ounces*—conclusions which render it certain that there must have been, as in the mathematical measurements of the tailors of Laputa, a serious mistake in the figures or in the facts! The Proteine contest between Liebig and Mulder has ended in the edifying result of puzzling everybody as to which view of the question should be adopted. Mr. Hawkins observes, in reference to other modern extravagances of fancy.

> "If we wonder at the absurdities of some of the older theories concerning the nervous system, may we not still smile at the extent to which physical analogies are now sometimes carried? As when, for example, we see nervous matter and muscular structure considered as identical with a galvanic battery; or when Matteucci calculates the quantity of heat and electricity, and therefore of nervous force, produced chemically by respiration and nutrition in a given time, and finds that *a man consumes only* 1-34*th part of the quantity of carbon which a locomotive engine would require to perform the same journey;* or that nervous and muscular force, developed by continued galvanic influence in a living animal, from the oxygenation of a given quantity of zinc, is six times as powerful as if the battery had been employed in generating steam; confessing, however, with regard to his instruments, that 'perhaps for a long time to come, man will not attain that degree of perfection which exists in those living machines, which he knows not how to imitate, and can only admire.'
>
> "So, also, when Poisseuille and Barchette, finding by experiment that endosmose takes place through dead animal tissues, between the serum of the blood and solutions of sulphate of soda or seidlitz water, at rest or in motion, would thence explain the action of a purgative salt as being also simply endosmotic, but leave the fact unaccounted for, that a few grains of dry calomel will produce the same effect of a copious discharge of serum from the intestinal surface." (p. 19-20.)

The conclusion that *thirty-four* men walking *ten* miles consume as much coke (carbon) in keeping their boilers (lungs) going, as one locomotive engine, must appear startling to those who have not had their attention specially directed to these curious problems in animal mechanics. We are no more prepared to deny it than we are to confute Borelli's statement that the heart acts with a force which, if properly directed, would crush an elephant. We can only wait calmly until some Hales rises up to give us the other extreme of the calculation.

The "fallacies of the Faculty" may be sometimes legitimately demonstrated:—

> "I would instance the fallacies, proved by Dr. G. Burrows to exist in Dr. Kellie's experiments, on the influence of atmospheric pressure on the circulation of the brain, so important in reference to the treatment of the injuries and diseases of that organ; and the revival of pressure as a safer and easier mode of cure for aneurisms of the extremities, previously laid aside because it had been erroneously concluded, by mere inference from analogy, that total and continued cessation of the circulation of blood in the tumor was necessary for its coagulation." (p. 26.)

The following extract contains a plain truth:—

> "I am well aware, also, that so much still remains, and must ever remain, unknown regarding the animal frame, that although it is wrong to call medicine entirely a conjectural art, yet it cannot be elevated to the rank of an exact science. The wisdom of experience, which is rational empiricism, should be felt in ours as in other professions, and there must still be room for theory and variety of opinion. It is related of Hunter, that to a pupil who remarked to him that he had said differently on the subject last year, he replied, 'Never mind what I *then* thought; I will tell you my present opinion.' In this respect, at least, Hunter is imitated by his successors. Notwithstanding the long-existing confidence of the navy in the efficacy of lime-juice and other acids, even potash, although so opposite, has recently been recommended for the cure of scurvy, now so curiously revived, after it had almost disappeared from

the catalogue of disease. Who can glance at the endless variety of strongly vaunted remedies for the still more formidable epidemic, once more visiting these lands, without exclaiming with the dramatist, 'Fecistis probe, incertior sum multo quam dudum?' But on the whole there is much ground for encouragement and hopeful expectation in the spirit with which physiology and pathology are at present cultivated; and if some are hasty and visionary, and others incredulous, and laudatores temporis acti, there is, I believe, among the members of our profession, more general soberness, candour, diffidence, and earnest search after truth, than at any former period, acting, moreover, under much more favourable circumstances." (p. 27-28.)

This oration may be regarded as one of the best which has of late years been delivered in commemoration of John Hunter.

Proceedings of Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Tuesday, March 27, 1849.

DR. ADDISON, PRESIDENT.

Case of Cervical Paraplegia in an Infant. By HENRY DAVIES, M.D., Physician to the British Lying-in Hospital, &c.

ELIZA A. B——, aged twelve months and a half, had been weaned three months, without trouble, and had cut the two lower central incisors. On the 17th of November she had been particularly lively all the day, had taken her usual exercise in the baby-jumper, and was put into her bed, in the evening, apparently in good health. When the nurse went to bed she appeared restless, and crawled into the nurse's bed from her own, which was close beside it. At five o'clock in the morning she sat up in bed, and ate a finger-biscuit. At half-past five she uttered a peculiar cry, for which some Dalby's carminative was given, without relief. The child shivered slightly. At six o'clock she was put into a warm bath, and had a dose of castor oil. At eight o'clock she took a basin of bread-and-milk. At ten o'clock she was violently sick, turned cold, and looked blue about the mouth, nose, and eyes. She was now put into a second warm bath, when she appeared to lose the entire use of her limbs, and her countenance became vacant. From this time she lay prostrate. When seen by the author, on the evening of the 18th of November, she was perfectly conscious, her head was cool, and the temperature of the surface generally natural, the pupils contracting under the influence of light; pulse moderately frequent, small, and languid; tongue slightly coated. The upper extremities were devoid of all power of motion or sensation, even from pinching or pricking with a pin; but the lower extremities were drawn up on her feet being tickled. Nothing unnatural was detected in the course of the spinal column, or any other part. Two leeches had been applied behind the ears; a blister was put between the shoulders; aperients and a saline mixture, with ammonia, were given. During the five weeks that the child lived, no change took place in the paralytic symptoms, and she remained perfectly conscious to within a few hours of her death. She was much weakened by diarrhœa, which set in on the 9th of December, and from that time she became emaciated, and was restless and feverish, while the lateral incisors came through the gums. During the five weeks she cut six teeth. The body was examined twenty-four hours after death. The dura mater, as well as a portion of the brain, was torn in opening the head, and about an ounce and a half of sanguineous fluid escaped. The vessels on the surface of the brain were somewhat fuller than natural; the cerebrum itself healthy; the cerebellum and medulla oblongata, as well as the nerves of the base, were particularly firm. The medulla spinalis was equally firm, its investing membrane tough, and vessels tinged. There was no fluid in the ventricles of the brain, and no lesion was discovered either in the brain or in the spinal cord. The viscera of the thorax and abdomen were generally healthy in appearance. The author remarks, that paralysis, coming on suddenly, not preceded or accompanied by any apparent disease of the brain, is by no means uncommon in children between the first and tenth year. In all cases, he believes, the predisposing cause is the process of dentition. The exciting cause has, in the majority of cases, appeared to be some derangement of the digestive organs. But in the case now related, which is peculiar, from the sense of feeling, as well as the power of motion, being lost, he believes the exciting cause was the succession of shocks received by the spinal cord through the use of the baby-jumper. He adduces some arguments and quotations from authors in support of his opinion; and in an appendix gives a brief account of four other cases of paralysis in children.

Dr. M. HALL said he had been as deeply interested in listening to the details which had just been read to the Society, as he was to the case of Mr. Dunn, read at the last meeting, and which, if he might make a suggestion, he would advise to be published, divested of its commentary. The author had evidently felt all the difficulty, as well as all the importance, of an accurate diagnosis in cases of paralysis; and the question had for many years been an object of special investigation with himself. He would endeavour very briefly to state to the Society some of the conclusions at which he had been enabled to arrive. In the first place, paralysis had been for ages aptly distinguished from hemiplegia and paraplegia, the former being, generally, not always, *cerebral* in its origin, the latter *spinal*. But besides hemiplegia and paraplegia, there are cases of partial paralysis, arising from affection of the nerve of the part itself—an affection most frequently seen in the face; so that we have cerebral, spinal, and what might be termed neural paralysis. But all cases of *partial* paralysis are not affections of this nerve merely; for we may have partial hemiplegia *limited* to the eyelid, to the face, to the arm, to the leg, &c. We may also, he believed, have partial paraplegia, or paraplegia limited to an arm or leg; though of this he was not so certain. This remark led him to the case before the Society,—a case of paralysis of the two arms, and, as we understood, of the two arms only, the legs being unaffected. What could its nature have been? It is almost impossible to imagine disease of the spinal marrow so situated as to induce paraplegia of both superior extremities, without involving in its effects the parts situated below. Paralysis of one arm, like paralysis of one leg, might arise from disease of the vertebra, so situated as to involve the immediately adjacent portion of the spinal marrow, or the origin, roots, or trunk of the brachial nerve. But how such disease could affect both brachial nerves, without involving the intervening substance of the spinal marrow, and so inducing paraplegia of the inferior extremities, it is difficult to imagine. He concluded, therefore, that Dr. Davies's case could not arise from disease of the vertebra, or it could not be one of half-paraplegia, using the term in its ordinary acceptation. What, then, was its intimate nature? There are two cases, one of which the given case may have been: the first is effusion at the base of the brain, slowly encroaching on the spinal canal, and compressing the roots of each brachial plexus. But this case is slow in its accession, and the case before us was more or less sudden. The second is of a totally different character. Sudden attacks of paralysis of an arm, of a leg, or of both arm and leg of the same side, in children, are not very uncommon. They are generally preceded or accompanied by spasmodic or convulsive affection. He thought they were to be traced to dental, gastric, or intestinal irritation, acting, in a reflex manner, on the muscular system, and especially on the muscles of the neck; whence the veins of this region became compressed, and the nervous centres congested with blood, and there were coma and general convulsion. If such a state of things may occasionally leave one arm paralyzed, it seems not difficult to imagine that in rare cases both arms may suffer the same loss of power. Both arms are frequently convulsed; why should they not be equally paralyzed? yet, he repeated, this is rare. Before he concluded these remarks, he said he felt compelled to revert, in a few words, to the observations which fell from a Fellow of this Society at their last meeting respecting an experiment of M. Flourens, and that gentleman's researches on the nervous system, or centres generally. It was not necessary, he believed, for him to defend his absent friend. But this he would say: no day of his life passed without his feeling most keenly how much he owed to the Secretary of the Institute. His career of investigation in the nervous system, both of its physiology and its pathology, had been greatly promoted by the labours of M. Flourens, many of whose experiments he had had occasion to verify and confirm, and the whole series of which he believed to be amongst the most logical and important in physiology, and to present a model of investigation in that science. M. Flourens is a most honourable person, a most conscientious experimenter, and a most accurate observer; and a more beautiful and valuable work than his "Researches," did not, in his firm opinion, exist in the science of medicine.

Here Dr. M. Hall was interrupted by the President.

Dr. M. HALL added that the interruption was, he doubted not, perfectly proper; but that the remarks of a former evening, on which he had commented, should have been interrupted in like manner.

The PRESIDENT observed, that he was not aware of having allowed any improper observations to be made on that occasion.

Mr. STREETER said, that Dr. Hall had misapprehended the remarks he had made at the last meeting; he had said no one word disparaging to the character of M. Flourens. He had called into question the accuracy and value of the deductions which M. Flourens had drawn from his experiments. He (Mr. Streeter) had yet to learn that any man was above criticism in that Society, and protested against such an assumption.

Dr. HALL said, that no one in that Society could hear Mr. Streater's explanation with greater satisfaction than himself.

Dr. Hall has forwarded to us the following note, which we here insert, to make the subject complete.

Note by Dr. Marshall Hall.

To the Editor of the Medical Gazette.

Sir,—I shall be obliged to you if you will append the following note to your account of the discussion at the Medico-Chirurgical Society on the 27th.

When interrupted by the President, I was about to add these observations:—First, I should have quoted the following extract from Mr. Streeter's remarks—"Read the biography of that wonderful hen, from which M. Flourens removed the cerebral hemispheres, and watched daily for ten long months," &c. Secondly, I intended to add a few remarks on those forms of paralysis attended and unattended with *pain* or *spasm*; applying the results of M. Flourens' admirable experiments, and some of my own. Thirdly, in order to remove an objection to experiment, which every humane person must have felt, I intended to suggest the inhalation of ether and chloroform, which having proved so great a boon to the surgeon and the subject of surgical operation, might prove also a boon to the physiologist in all or most experimental investigations, except those which relate to the question of sensibility itself.—I am, sir,

Yours, &c.

Marshall Hall.

London, March 31, 1849.

Cases of Perforation and other Lesions of the Stomach occurring in connection with Diabetes Mellitus; with Observations on the Gastric Origin of that Disease.

By William Macintyre, M.D., Physician to the Western General Dispensary, Lisson Grove.

The author commences his paper with some general introductory remarks on the unsatisfactory results of anatomical researches in diabetes, which have hitherto thrown so little light on the nature of this obscure affection, that a theory founded almost solely on a consideration of the phenomena observed during life, in which the assimilating processes are supposed to be impaired or perverted, has, from the earliest times, received very general assent. Adopting this view of its proximate cause, he then proceeds to relate three fatal examples of the disease which fell under his own immediate observation, and in which post-mortem appearances were met with in the stomach, strongly significant of that organ having been, at some period, subjected to a special morbid action. The first case was that of an adult male, in whom the disease was not recognised till about a year before the author was consulted. The symptoms were highly characteristic. Death took place under a state of obstinate constipation. On a post-mortem inspection, among other lesions, the left upper lobe of the lungs was found broken down in its centre into a softened purulent mass, more like the disorganization from unhealthy inflammation, than a tubercular vomica. The stomach was greatly dilated, and its walls very thin; its cardiac extremity presented a dark appearance, and its lining membrane was softened. The bloodvessels of this viscus were unusually large and turgid. The kidneys were much enlarged, and double their ordinary weight. The right freely admitted a wax injection; the left exhibited, under the microscope, the natural structure. The subject of the second case was also an adult male. He had been getting thin and weak for some months before he was seen by the author, and died, labouring under an extensive aphthous affection of the mouth and fauces, accompanied with symptoms of intense irritation of the stomach, pain at the epigastrium, eager craving for cold drinks, and incessant vomiting. The real nature of the complaint was not detected till two days before death, when the urine was found to be profuse, limpid, of specific gravity 1038, and strongly saccharine. On inspection, the organ presenting the principal lesions was the stomach, which was remarkably capacious, and on being lifted up for examination gave way posteriorly at its large curvature, allowing the escape of a dark-coloured fluid into the abdominal cavity. Its walls around the rent thus caused were very soft, and throughout the entire splenic division reduced to extreme tenuity, being in some places almost diaphanous. The subject of the third case was a little girl, only five years old, who had been for some weeks under treatment in the country, for what appeared to be remittent fever, and was brought to town for advice: when the urine was found to be very copious, of great density, the specific gravity ranging between 1040 and 1045, and abounding with sugar. The constitutional symptoms corresponded with the character of the urine, and the child sank rapidly, and died exhausted. On dissection, an unusual dryness of all the tissues was observed. The kidneys appeared to be perfectly sound. No tubercles could be discovered in the lungs, but a coffee-coloured fluid, to the amount of several ounces, occupied the lower part of the pleural sac. When this fluid was removed, the cavity of the chest was seen to communicate with the stomach by one large irregular hole in the walls of this viscus, and several smaller perforations in the diaphragm. The openings in both corresponded exactly, but without any adhesion between the opposed surfaces. The structures bordering on the perforation were black, ragged, and thin; and the parietes of the stomach, throughout its whole splenic division, partook more or less of this attenuation. The fluid removed from the chest was inodorous, and found to consist chiefly of blood, epithelium, and textural detritus. After briefly remarking on the treatment of these cases, the author goes on to review the appearances found on dissection, dwelling principally on those observed in the stomach—viz. the extreme attenuation of the coats of the organ in all the cases, and the lacerations and perforation in two of them,—conditions allying them to each other, and denoting, apparently, but different stages of a kindred disorganization. In considering the nature and import of these changes, the great question to be solved is, whether they are to be regarded as pathological lesions or cadaveric changes. As respects the actual perforations in the last case, the author considers them to be post-mortem consequences. But though, under this view of their production, they might naturally be classed with the perforations or erosions which were attributed first by John Hunter to the digestive or solvent action of the gastric juice, he feels more disposed to rank them with those analogous changes which, since Hunter's time, have been noticed to occur in connection with various diseases, some of decidedly gastric character, but the greater number not primarily referable to the stomach. The facts thus brought into notice add much to the interest of the subject, and considering the force of various objections urged against the opinion of the great physiologist, would seem to lead us to take a modified view of the theory of solution, and regard the successive changes from softening to attenuation, and from attenuation to complete loss of substance, as the work, not of a gastric secretion in a normal and healthy state, but as the effects either of that fluid in an altered or vitiated state, or of other products secreted by, or generated in, the stomach, and endowed with corrosive properties which do not come into full play till after death, when the tissues are already enfeebled and wasted, and no longer defended by the vital forces. In diabetes, the sugar existing in the primæ viæ suggests a fertile source of products possessing most active qualities. Those which we are most acquainted with are the lactic and oxalic acids, both of them hostile to the constitution, the latter eminently so. It is admitted, however, that for the confirmation of these views and opinions, though they are entertained by high authorities, the evidence of demonstrative chemistry is still wanting. How far they are countenanced by the limited number of facts brought forward in the paper, the author leaves to be determined by future and more extended observations.

Mr. **Prescott Hewett** said that an observation had been made in the paper to the effect that he had never found complete perforation of the stomach after death. Now this was a mistake, as he had seen cases of the kind, and had put up the preparations of them, which were at the present time in the museum of St. George's Hospital. In one of these cases the perforation was through the diaphragm into the chest, and in one the opening communicated with the pericardium. He thought the mistake must have arisen from the question whether he had ever seen solution of the stomach in connection with diabetes.*

Dr. **Copland** believed it was now quite settled that diabetes was not a disease of the kidney; and he believed that that organ had nothing to do with the disease beyond eliminating the fluid from the blood. The disease was a disease of assimilation: was that error of assimilation primary or secondary? Diabetes was connected with disease of the liver or lungs in many instances: he had seen cases in which one or other of these organs had been diseased, and other cases in which both of them had been implicated. Now, were these lesions primary or secondary effects as regarded the diabetic disease? Were the changes noticed in the stomach in Dr. Macintyre's case those which occurred during life, or post-mortem? He (Dr. Copland) thought them post-mortem. Dr. Copland then mentioned some of the post-mortem changes which occur in the alimentary canal in connection with diabetes, and concluded by referring to some cases of the complaint arrested by the use of ox-gall and kreosote.

PATHOLOGICAL SOCIETY OF LONDON.

April 2d, 1849.

C. Aston Key, Esq. in the Chair.

Dr. **Ramsbotham** presented a very interesting specimen of

Extra-Uterine Fœtation.

This was removed from a female, 28 years of age, unmarried, and a lady's maid in a very respectable family: it appeared that she had not menstruated since the early part of January, but had been perfectly well in other respects until the 16th of March, when a medical man was sent for, in consequence of severe spasmodic pain in the abdomen; this appeared to yield to treatment, but on the 22d of March, at 6 P.M. was again summoned, in consequence of very violent abdominal pain. Collapse supervened, and early on the morning of the 24th, that is to say, about thirty hours after, she died. On making a post-mortem examination, about two quarts of blood were found in the abdominal cavity; also a fœtus, about nine weeks old, together with the chorion and amnion, and rudiments of placenta: the ovum was broken, and liq. amnii escaped; in the uterus was found a deciduous membrane, and the cervix was plugged up with gummy matter, as in pregnancy.

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* This observation had reference to a statement in the paper respecting the conflicting evidence regarding the frequency of complete solution of the stomach. It is only necessary here to say, that owing to some mistake made in a communication by an eminent surgeon to Dr. Macintyre, this opinion was erroneously attributed to Mr. Hewett.

Dr. Ramsbotham remarked that a curious circumstance connected with this case was, the very large effusion of blood that had taken place; he also said that it had been noticed by Josephus, Astruc, and Burdoch, that extra-uterine fœtation occurs most frequently in unmarried females: he mentioned eleven cases ot this kind that had come under his own observation; of these, four had died from a similar cause to the one now brought before the Society, three had died during the process of ulceration by which nature had attempted to expel the fœtus when full grown, four had recovered—of these, two passed the bones per anum, one was extracted per vaginam, and one is still retained.

Mr. Gray presented a specimen of

Extensive Caries of the Temporal Bone.

S. B., æt. 19, was admitted, under Mr. Tatum, at St. George's Hospital, Sept. 6th, 1848. She stated that two months prior to her entrance, she was attacked with inflammation of the right ear, which soon produced partial deafness in that organ, and she consequently became a patient of the Dean Street Dispensary, where it appears the membranum tympani was twice punctured without relief. She suffered much pain, and a thin discharge flowed constantly from the meatus. The ear was carefully examined on the 21st, when the membrana tympani appeared to be destroyed. For several days afterwards, small spiculæ of bone were stated to have come away with the discharge, which was very profuse. The sense of hearing became now entirely lost, and the functions of the portio dura impaired, which became very manifest at the end of the first week of November (just three months from the commencement of the first attack of inflammation), the mouth being then considerably drawn over to the left side. The bottom of the meatus is now stated to be occupied by a smooth glistening polypoid-looking tumor, the nature of which, however, was not very clear: it increased in size, became of a pyriform shape, and presented itself externally. Meanwhile an abscess formed in the temporal fossa, from which pus was discharged from the meatus by pressure. On the 17th, this was opened by a small incision, and a small quantity of pus evacuated; but the œdema of the surrounding parts, which was very considerable, did not subside. On the 21st, the tumor which had occupied the canal of the external meatus had become broken down, or at least had entirely disappeared, and the surrounding soft parts were less œdematous, but the discharge was more profuse, and very offensive, and the pain continued to be exceedingly severe. On the 25th, the discharge somewhat diminishing, an incision was made through the temporal muscle, which gave exit to a large quantity of pus, with almost immediate relief. On Dec. 3d, a second abscess, which had formed near the outer canthus of the eye, burst on the day following the opening of the abscess, and gave exit to a small quantity of very fœtid pus; and a small tumor, similar to the one before described, again formed in the meatus, and by the 9th occupied the greater part of that cavity. A week afterwards, several small portions of bone came away from the opening near the outer canthus, and a considerable surface of carious bone was felt in the temporal fossa, and over the mastoid process. On the patient blowing her nose forcibly, pus was always forced from the cavity of the meatus. There now existed behind the ear two openings, both giving free exit to matter. At the latter part of December, they were laid freely open, and on introducing the finger into the cavity of the abscess, the mastoid process could be felt denuded, carious, and bathed in pus. She had now become very weak and restless, and at the commencement of January was attacked with low fever; on the 11th, she was reported as having had a fit; and on the 14th she became delirious, and a remarkable alteration was observed in her voice: she gradually became more low and delirious, but appeared occasionally to recognise her friends, and died on the 19th of January without any other symptom supervening which had reference to the brain, except a dilated state of the pupils.

In the post-mortem examination the dura mater was found to be very much congested, and increased vascularity was detected in that portion of it which covered over the anterior and posterior surfaces of the petrous portion of the temporal bone: a small quantity of lymph was found beneath it and this bone. The cavity of the arachnoid contained a small quantity of yellow purulent lymph, and a considerable quantity of a similar substance was found on the arachnoid membrane, and also beneath it in the subarachnoidean areolar tissue at the base of the brain, covering over the upper part of the medulla, and surrounding the roots of the nerves in this situation. The facial and auditory nerves of the right side appeared somewhat softer than natural: this effusion was limited to the right anterior border of the pons, and extended for a little distance on the right middle lobe; this lobe was more vascular and softer than natural. The ventricles of the brain were dilated, and contained a considerable quantity of thin, yellowish, opaque fluid; the lining membrane of the ventricles was very vascular, more particularly on the right side; the corpus callosum, septum lucidum, and fornix were very soft, in some parts being almost diffluent.

There was also found extensive caries of the mastoid and petrous portions of the temporal bone, the squamous portion being also slightly implicated. The anterior portion of the mastoid process was quite destroyed, as also were the styloid, vaginal, and auditory processes of this bone; consequently the canal for the facial nerve, and the foramen by which it gains its exit, were wanting, which accounts for the facial palsy; the ulceration only very slightly encroached on the occipital bone; the mastoid portion of the bone which forms the floor for the lateral sinus was laid open for the extent of an inch in length, and half an inch in breadth, the sinus itself being almost totally impervious, from the effusion of lymph into its cavity. Nearly the whole of the base of the petrous portion was destroyed, and the cavity of the tympanum not only laid open, but all that portion of the bone which forms the posterior boundary of the middle fossa of the skull, excepting the parts corresponding to the projection of the perpendicular semi-circular canal, was almost completely destroyed. The posterior part of the glenoid cavity, the wall of the carotid canal, the commencement of the zygomatic process, and the lower part of the squamous portion, were also very extensively ulcerated. The internal ear was also carious.

Mr. Nathaniel Ward exhibited a specimen of

Rupture of the Peritoneal Coat of a portion of Small Intestine, constituting a Femoral Hernia, and which had taken place during the application of the taxis.

A washerwoman, æt. 52, came under his care in the London Hospital, on March 8, with a left femoral hernia, which had been down two days. According to her account, attempts at reduction had been made on the day following its descent, and persisted in for about half an hour, and also on the subsequent day for about a quarter of an hour. The operation was performed almost immediately after her admission, without any attempt at the taxis having been made. The hernia was reduced without the sac having been opened, and the only point of interest during the steps of the operation was the existence of about an ounce of opalescent fluid between the sac and its immediate investment, the former presenting a polished smooth surface, and, from being extensively congested, resembling the appearance of the gut itself. A dose of opium was given on the night of the operation, and the bowels acted in fifty-two hours, an injection and some small doses of saline aperient medicine having been administered several hours before. She progressed favourably till the afternoon of the third day, when intermittent pulse, clammy skin, and general prostration of the powers, brought on a fatal termination in the evening. In the post-mortem examination there existed no appreciable evidence of peritoneal inflammation; the sac of the hernia had not been in any way interfered with; and the fold of intestine which had been protruded lay near the mouth of the femoral canal. A whitish indented band passing round its neck, pointed out the tightness of the stricture, and was more obvious internally than elsewhere. Running along the middle of the convex border of the gut, in a line with the long axis, existed a rent of the serous coat about an inch long, and in the middle of the rent the mucous and muscular tunics had become perforated by a rounded aperture, about one-fifth of an inch in diameter, extravasation of the contents of the intestine having taken place into the peritoneal cavity.

That the rupture of the peritoneal coat had taken place during the attempts made at reduction, was evident from its extent, compared with the perforated opening of the mucous and muscular tunics, which had not given way till the third day after the operation, the patient having progressed favourably till that period.

The effusion of fluid between the sac and its immediate investment was also in all probability the result of the previous manipulation. The case suggested in a forcible manner the propriety of a guarded and cautious application of the taxis in cases of femoral hernia, and as far as it was individually concerned, militated against the operation without opening the sac.

Also, for Mr. Adams,

A specimen of Large Warty Growth, between the second and third left toes,

of an irregularly triangular form, the base below extending from the anterior extremities of the metacarpal bones, as far forwards as the end of the toes. The tumor measured from above downwards one inch, from before backwards an inch and a quarter, and the base from side to side an inch, inpinging on to the lower surface of the toes, particularly the third. The narrow upper portion projected about one-fifth of an inch above the level of the upper surface of the toes. On making sections into it vertically from below upwards, it was found to be composed of two irregular portions: the larger involving the integument and subcutaneous tissue as far as the flexor sheath of the third toe, with which it was held in close contact by condensed cellular tissue; the smaller internal division connected in a similar manner with the flexor sheath of the second toe. The structure of the tumor essentially consisted of hypertrophy of the epidermis, the papillæ, and subcutaneous tissue. It was very vascular, and a large quantity of fibrous tissue radiated throughout its structure, and was mixed up with much epithelium. Its development had extended over a period of 10 years, and was attributed by the patient, a female, æt. 23 years, to the circumstance of her having, when 10 years old, run a piece of glass between the second and third toe. From the period of its first appearance it had gradually increased; numerous local applications had been made use of, without in any way arresting its growth; and the inconvenience and pain daily increasing, the tumor was removed, together with the two toes with which it was connected.

PARIS ACADEMY OF SCIENCES.

Sitting of April 2.

M. Retzius exhibited a variety of anatomical preparations, which had been the objects of much microscopic research on his part. They were—

1. Two specimens of the placenta of the human embryo of the fourth month; that is to say, the *placenta fœtilis*.
2. The electric column of the torpedo, showing the lamellar composition described by M. Wagner in his work on the Structure of the Electrical Organs of the Torpedo.
3. The *corpus luteum* of the ovary of a cow in the third month of gestation.
4. The tibia of a human embryo of the fourth month, injected by the arteries.
5. The human liver, and the distribution of the biliary ducts.
6. The liver of a rabbit.

M. Machet presented a communication on a new process for preparing "gluten cakes" to serve for food, in conjunction with sea-biscuit, for the army.

Several communications were presented on the Cholera: amongst these was one from M. Ollinet, who considers this disease as a most acute nervous affection; another from M. Hurant, who calls attention to the alteration pointed out in previous communications in the state of the blood in cholera patients.

M. Warmer presented a communication on Affections of the Heart; and M. Gariel, some Observations on the Employment of the Atmospheric Pessary.

Correspondence.

REMARKS ON THE EDINBURGH EPIDEMIC FEVER OF 1843-44. BY JOHN ROSE CORMACK, M.D., EDIN., F.R.S.E., LATE PHYSICIAN TO THE ROYAL INFIRMARY AND FEVER HOSPITAL OF EDINBURGH.

Having long had nearly ready for the press a considerable supplement to my monograph on the Epidemic Fever which prevailed in Edinburgh in 1843-44, I have hitherto refrained from obtruding the following remarks upon the readers of the Medical Gazette; but having resolved, from the incompleteness of some of my materials, to delay, and alter the plan of, my appendix, I now desire to make a short personal statement on one or two important points, regarding which I am unwilling any longer to be misunderstood.

In making this communication, it is not necessary to criticise the opinions or impugn the statements of any one. I desire simply to place my own views in a correct light, and to re-assert and vindicate that claim to scrupulous accuracy as to facts, which was set forth in my introductory chapter. "The main object," I there said, "in what follows, is to present a faithful account of the natural history and pathology of the prevailing epidemic, along with such details of the treatment followed, as appear to be of practical importance. Every fact stated is put forth almost in the very words in which it was noted down at the moment of observation;—a practice which ought to be considered imperative on all who venture to lay the result of their experience before the profession. It cannot be denied, that great hindrance has accrued to the improvement of the science of medicine, from physicians describing the phenomena of disease, and the supposed effects of remedies, from general impressions remaining in their minds after the lapse of hours, days, weeks, or even longer intervals,—in place of founding their statements upon an analysis of facts committed to paper at the very time they were being observed, at the bedside of the living patient, or at the dissection of the dead." (p. 1-2.*) Lest the reader of Dr. Wardell's papers should be impressed with the idea that I did not observe and record the phenomena of the epidemic fever in the way to which I lay claim, I beg to state that I scrupulously followed out the laborious method recommended in the above extract.

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* Natural History, Pathology, and Treatment of the Epidemic Fever at present prevailing in Edinburgh and other towns. 1843.

The only two points to which I now wish to call attention, are my remarks on the *state of the blood*, and on the question of the *rosy elliptical eruption* (of typhus) being "*always*," or "*almost always*," absent.

1. *State of the blood.*—In the course of my observations on this subject, I say—"Professor Allen Thomson had the goodness to lend me his able assistance in examining the blood of a number of my patients by means of the microscope. A few drops were taken from the thumbs, on the same day (24th Oct.), of about a dozen persons, some of them in the pyrexial, and others in the apyrexial stage of the disorder; and it was found that in all of them there was an unusual number of pus-globules; and in some cases, in addition to this, all the globules were found serrated and notched. One gentleman present upon this occasion was observed to have his blood exactly in the same state as the fever patients, and within two days he was seized, and went through two mild attacks, or to use conversational phraseology—*the fever and the relapse.* The blood of some other healthy persons was also examined at the same time: it exhibited nothing unnatural, and none of these latter individuals have taken the fever, although a month has now elapsed since the observation was made."—*Cormack*, p. 113-114.

Dr. Wardell, in speaking of the blood, thus comments on the above statement:—

"On being drawn from the veins, it was of a less formative consistence than natural, and Dr. Cormack says that the 'crassamentum was a spongy mass, instead of a firm fibrinous clot.' That author also says that the microscope revealed lesion, as evinced by the presence of pus-globules, and in addition, that the globules were found serrated and notched. From inquiries made personally of Professor Allen Thomson, who instituted the researches, it appears that there must have been some misunderstanding on the part of Dr. Cormack, as the former did not corroborate the statement which is made by the latter in his work. Pus-globules certainly did not exist in the blood. In order to be fully satisfied on this point, I procured the blood of a number of patients in different stages of the disease, which my friend and late teacher Dr. Hughes Bennett (whose histological acquirements, especially with regard to morbid anatomy, are well known to the profession), had the kindness to carefully examine, and this gentleman assured me that no pus-globules existed, nor yet the serrated and notched appearance as reported to have been observed by Professor Thomson."—WARDELL. (MED. GAZ. p. 83-84).

There was no "misunderstanding" on my part. I have now before me the original notes, drawn up by Dr. Allen Thomson and myself, of the observations made on the 24th October, 1843, which were intended to be the commencement of a series; which, unfortunately, we found it impossible to continue. These notes were made at the time of observation, with the blood still under the microscope, and are illustrated by numerous sketches by Dr. Thomson of the notched and serrated blood-globules. The following is an exact transcript of a portion of our original minute, in the handwriting of Dr. Thomson:—"24th October, 1843.—Observations made on the blood. 1. *James Laing.*—Blood contains a large quantity of colourless globules, of two sizes: one set slightly larger than the blood-globules; the other fewer in number, and exactly similar to the globules described as pus-globules. 2. *Rose.*—Globules very much broken up, and ragged on the edges; very few colourless globules; a *few* of the largest size," &c. &c. In the other ten cases, we have noted similar appearances almost in the same words.

I do not wish to attach much value to the above observations of one day, as illustrating the state of the blood in an epidemic which lasted for many months. I merely protest against these observations, which were carefully made, and as faithfully recorded, being described as a "misunderstanding"—upon the faith of Dr. Wardell's reminiscence of a conversation with Dr. Thomson, and on Dr. Hughes Bennett's microscopic observations, made, I have no doubt, with skill and accuracy, but *made at a different time, on the blood of other persons*, labouring, I believe, under *another kind of fever*.

When the objects were being looked at, I remember Dr. Thomson stating, that he was always distrustful of microscopic observations made on the blood corpuscles; and more especially as to the jagged appearance of their margin, as he thought he had seen a great variety in the phases of that appearance, according to differences in the mode of observation, such as the way in which the blood was spread on the glass, the time it was allowed to remain there, the degree of drying before it was covered, and the state of cleanness of the glass plates. It was, therefore, with these sources of fallacy present to my mind, that I avoided generalizing, and strictly confined my statement to what had been actually seen in the blood of twelve persons, on the 26th of October, 1843. It must be admitted, however, that in so far as a limited number of observations are to be trusted (and with the reservations implied above), there is reason to believe that we saw, in the blood examined, an abnormal degree of the ragged margin, as well as a greater number of the corpuscles called pus-globules, It is not, however, because I attach importance to these microscopic observations that I have said so much upon the subject, but because I feel that whatever faults may be charged against my work, it has the merit of being as faithful a record of my experience of the fever up to the date of its publication in December, 1843, as could have been produced. No one could have been more painstaking, for every case was written with my own hand, or to my dictation, at the bedside and in the anatomical theatre, by my accomplished assistants, Dr. Heude and Mr. John W. Reid.

2. *The eruption.*—At page 84, in summing up the distinctive characters of the disease, I say—"*The rosy elliptical eruption is absent in almost every case in the present epidemic.*"* Had my work been published at the close of the epidemic (or even some months later), the word "almost" would have been deleted from the above sentence. I had then become quite satisfied that the doctrine first promulgated by Professor Henderson, in his clinical lectures,† and soon generally adopted in Edinburgh, was correct—viz. that the eruption characteristic of typhus had never occurred in the "relapsing" epidemic of 1843-44; and that the two fevers were the products of different morbid poisons. This fact became very strikingly manifest towards the close of the epidemic to which my monograph refers, when the ordinary Edinburgh typhus began to rage. We had our convalescents from the expiring epidemic of the relapsing fever frequently seized with the exanthematous typhus then setting in; till such time, as typhus cases were kept apart from those recovering from the relapsing fever. I have notes of nineteen patients who went through unequivocal attacks of both fevers; and other physicians, I know, kept records of a much greater number of similar instances. I forbear at present enlarging upon this question, as it is enough to say, that the evidence was so palpable and overwhelming, that (upon the unanimous representation of the physicians) the managers of the infirmary and fever hospitals framed rules to save those convalescent from the first epidemic from exposure to the contagion of the incipient typhus epidemic. I believe the care with which these rules were framed, and the zeal with which they were enforced, saved many lives.

In speaking of my views regarding the eruption, Dr. Wardell seems (I believe without intending it) to accuse me of dogmatism. "Dr. Cormack," says he, "comes, and rather sweepingly, to the conclusion that the elliptical spots were observed in epidemic cases, although he is enabled to indicate but one individual," &c. I erred, as I soon discovered, and have now admitted, as to the case referred to; but when I proclaim this error, and unreservedly give in my adhesion to Dr. Henderson's doctrine, I must in justice to myself, be allowed to extract the following paragraph, as it shows, that from the very first I contemplated the chance of having to alter or modify my opinion:—

"If some think," said I, "that on this point there has been exhibited an undue reluctance to enter fully upon an important pathological inquiry, I beg to remind them, that data are yet wanting to entitle us to discuss it fairly, and with profit. This may be attempted in a subsequent publication, at the close of the epidemic; in the mean time let the remark of Rousseau be remembered, 'that the truth is in the facts, and not in the mind which observes them;' and it is hoped that some important facts have been even here communicated as contributions to this part of the pathology of the fever." (*Op. cit.* p. 107.)

Though I have much to add to, I am anxious to announce that I have little to alter in my description of the epidemic of 1843-44.

It was thus that I summed up the Positive and Negative Characters of the disease:—

"The present epidemic possesses positive and negative characters, strikingly distinguishing it from the fever which generally prevails in Edinburgh, viz.—

"1. The sudden and violent invasion of the disease.

"2. Bronzing, leadening, or purpling of the countenance before and after seizure.

"3. The almost uniform occurrence of one or more relapses.

"4. The unusual number of cases with yellow skin, black vomit, and hæmorrhage.

"5. The short duration of the pyrexial state, and its mode of termination.

"6. The severe muscular and articular pain.

"7. The rosy, elliptical eruption resembling measles is absent in *almost* every case in the present epidemic.

"Whilst these are the principal characters which distinguish the two epidemics, they also exhibit other marked differences: for instance, in that which now prevails—

"8. Severe vomiting is much more common; as are likewise gastric, gastro-hepatic, gastro-splenic, and gastro-enteric symptoms." (*Op. cit.* p. 84.)

The amendment which I have to make on the above summary, is simply the deletion of the word "almost," in the seventh paragraph; but it is so important and essential a correction, that it has seemed proper to make it thus publicly.

Putney, 1849.

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* My work was published on the 20th December, 1843.

† Afterwards in the Edin. Med. and Surg. Journal for January, 1844.

DR. J. Y. SIMPSON ON THE DISCOVERY AND CONSTRUCTION OF THE AIR-TRACTOR.

[As Dr. Simpson has not yet had an opportunity of making a statement in reply to the charge brought against him by Dr. Mitchell, on the subject of the air-tractor, we consider it only fair, on the *audi alteram partem* principle, to insert the following letter.]

SIR,—It certainly was neither my wish nor intention to join in the controversy relative to the air-tractor, which you have lately given in the pages of the GAZETTE. But as you have thought fit to write editorially on the matter, in your last number; and as your own remarks, and those of your correspondents, are, I think, calculated to do me unintentional injustice, I hope you will excuse me troubling you with one or two observations merely in my own personal defence.

1. In the GAZETTE for March 23rd, you published a short anonymous letter containing the following accusation: "Dr. Simpson, of Edinburgh, lays claim to the merit of discovering the applicability of atmospheric pressure in aid of delivery." Now this accusation is totally groundless, because it is totally untrue. I never laid claim to any such merit. On the contrary, I have always given it to whom it is due, viz. to Dr. Arnott. In the first published notice of the subject, I quoted in full Dr. Arnott's own words, in which he suggests the principles of the instrument. Could I do more? Let me add, that Dr. Arnott first published the suggestion in 1827; and at that time the Editor of the MEDICAL GAZETTE both derided the proposition and its originality.*

2. Dr. Mitchell sets out in the first sentence of his first letter to me, as given in your pages, with stating "I was rather surprised to find that you had not acknowledged me (Dr. Mitchell) as the discoverer of the application of the principle in such instrument." I have already stated that I gave the merit where I deemed the merit due, viz., to Dr. Arnott; and I was not, till the last month, in the slightest degree aware that Dr. Mitchell had in any way attended to the subject, though I knew that other gentlemen had made attempts to reduce Dr. Arnott's suggestion to practice,†—but without success. I feel certain that if Dr. Mitchell will only get an instrument constructed on *his* proposed plan (as given in the sketches he has sent me in his first letter), he will find, I believe, that it is powerless and useless, and that it is not applicable in practice.

Let me add, that I am sure that no man can honestly accuse me, on any occasion, of ever failing, either in lecturing or in writing, to do every possible justice in my power to other investigators, and in distributing *suum cuique*, as far as my knowledge went.

3. In the first published notice of the air-tractor (see Monthly Journal for February, p. 556, and MEDICAL GAZETTE for March 16, p. 480), after mentioning the first case in which it was tried, in December last, I added that I "was not aware that any one had applied practically this obstetric means before it was employed in the case detailed. But the idea of using such a power had been long ago proposed by a gentleman for whose works and talents they all entertained the utmost respect,—Dr. Neil Arnott, of London. In his admirable work on Physics, Dr. Arnott alludes to the subject in the following words," &c.

In commenting upon this statement, Dr. Mitchell, in the GAZETTE (p. 531), observes, —"He (Dr. Simpson) states that no one before himself, as far as he was aware, had made a practical application of Dr. Arnott's suggestion. The medical public (adds Dr. M.) will now see that he must have been perfectly well aware of its previous application by me." Now I still believe, that up to the time at which the above notice was published by me, no one had applied the aforesaid principle in practice. Dr. Mitchell avers he had applied it previously. If Dr. Mitchell will give the date of any case or cases in which he applied it, that date would settle the question; and I will at once yield the the point if I am wrong.

4. In answer to Dr. Mitchell's first letter, I assured him that in the construction of the air-tractor I received no hint or suggestion "from his competition exercises, and that I never, as far as I knew, looked at these exercises, as the whole were entrusted to others to decide upon." Allow me to add, that not only did I not read Dr. Mitchell's exercises, or those of the other competitors (four of whom were awarded with prizes), but up to the date of his letter to me I

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* "We find the old sucking-horn of Hildanus brought into use for a most extraordinary purpose, being no less than to draw the child out of the womb. And we find a renewal of that most absurd idea, noticed in Paré's work, and so well ridiculed in Mr. John Bell's 'Principles of Surgery,' of applying a *child's sucker* to raise depressions of the fractured skull. Where is the limit to absurdity?"—MEDICAL GAZETTE, vol. i. p. 219.

† As, for instance, Mr. Paul, one of the best pupils that attended my class during the same year as Dr. Mitchell. Mr. Paul proceeded in the matter much further than Dr. Mitchell. He did not, like Dr. M., merely write and theorise about an instrument, but tried to make one. Dr. Mitchell alludes to my suggesting the investigation, as a fit subject for the ingenuity of my pupils, in 1847-48. When lecturing, I have always been constantly in the habit of directing specially the attention of my pupils from time to time to subjects open for new inquiry, and tried to stimulate them to think on such matters for themselves, write their theses on them, &c.

never heard, from himself or from any other person, the most distant hint of any ideas of his about the construction of an air-tractor.

On asking Dr. Duncan, who read the exercises over, he assures me that from the time of his looking over the papers till I showed him Dr. Mitchell's letter, he had no remembrance whatever of Dr. Mitchell alluding to the subject; and his observations on it, let me add, must, I think, have been most entirely out of place in such exercises, as none of the twelve questions given out referred at all to instrumental delivery. If Dr. Duncan did not attend to such a subject thus irrelevantly introduced into the exercises, and in which subjects he (Dr. Duncan) was in no respect interested, I do opine he was in no degree to blame, as you seem to think he was.*

5. In my note to Dr. Mitchell (see GAZETTE, p. 520), I stated that "I had thought and talked often of making an air-tractor, such as I have latterly constructed, long before you were my pupil."

Dr. Mitchell affects to doubt this. I have mentioned Dr. Arnott's suggestion and the subject publicly, at more or less length, every year in lecturing, since I commenced teaching midwifery, ten years ago. It very seldom does happen that a subject of mere medical conversation happens to be a subject of actual record; but in this case it oddly and fortunately enough happens that it is so. In February, 1848, six or eight weeks before Dr. Mitchell's prize exercises were written in my class rooms, Dr. Clay, of Manchester, was called down professionally to Edinburgh, to perform the operation of ovariotomy. In his Obstetric Journal for 1st February last, Dr. Clay, in speaking of the air-tractor, the utility of which he doubts, observes:—"The instrument is not new to us, having *conversed* with Dr. Simpson a year ago on the subject." (p. 60.)† At last, in December, 1848, I was induced to set about the construction of a proper instrument in consequence of witnessing, in the Royal Infirmary here, some trials with the artificial French leech; and at first I thought that an exhausting cylinder and piston, on the same principle, would answer best. In pursuing the investigation after it was once begun, I had to make innumerable trials with, and changes on the instrument before I obtained a form practically and really useful.

6. Dr. Mitchell purports to report correctly, to you and to your readers, various circumstances relative to my statements in lecturing and awarding the prizes, &c.; and founds various conclusions upon his own memory for his own argument. Dr. Mitchell says, that in my lectures I stated that I had "attempted in vain, at the Edinburgh Maternity Hospital, to apply a leather sucker to a child's head." I did not state any thing of the kind, because I never made any such attempt. I never tried till last December to apply the principle in actual practice.

Lastly: Permit me to observe again, that we are indebted to Dr. Arnott for first suggesting the "applicability of atmospheric pressure in aid of delivery." And if I have any claim to any merit in the matter, it is this,—that after Dr. Arnott's idea had lain dormant and useless for twenty years, I reduced Dr. Arnott's suggestion to actual practice,—was the first to construct a useful and applicable air-tractor,—the first to use such an instrument in practice,—and the first to point out the cases fit for its use. Further, in the construction of the air-tractor I was indebted to no one but Dr. Arnott, in even the remotest degree, for any hint or aid whatever. I may be, perhaps, excused for adding, that I have now employed it repeatedly, both in cephalic and pelvic presentations, and both when the head was still high above the brim, and already sunk into the pelvic cavity; and I believe that the construction of the air-tractor is still very far from being so perfect as it will yet be rendered.

Yours, &c.,
J. Y. SIMPSON.

Edinburgh, 7th April, 1849.

Medical Intelligence.

ST. LUKE'S HOSPITAL FOR LUNATICS. PHYSICIANS' REPORT FOR 1848.

IT will be seen by reference to the statistical tables, that 205 patients have been admitted during the past year; 106 were discharged as recovered, 64 were uncured, 10 were removed at the request of friends, 17 were discharged as paralytic, &c., 11 died; giving a per centage of $58\frac{5}{9}$ as cured, $35\frac{1}{3}$ uncured, and $6\frac{1}{12}$ of deaths. The proportion of recoveries this year has been less than that of

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* Of course we do not blame Dr. Duncan for want of memory. As Dr. D. decided against Dr. Mitchell, he must have read his papers; and we confess that it appeared extraordinary to us, that although no long time had elapsed, he did not recollect that a description of an air-tractor had been given in one of the exercises,—when public notice was so strongly called to the invention by Dr. Simpson. It is evident, however, from Dr. Simpson's statement, that he, Dr. S., knew nothing of the contents or relative merits of the papers, and that Dr. Duncan had wholly forgotten this reference to the air-tractor.—ED. GAZ.

† Dr. Simpson has forwarded to us a letter from Dr. Paterson, by which it appears, that so long back as the year 1836 the subject of the air-tractor had been discussed by them.—ED. GAZ.

1847, and more than that of 1846. In 1847 it was 64⅛ per cent., being certainly above the average; while in 1846 it was 57⅜. The per centage of cures from 1751 to 1760, was 59 and a fraction; that from 1831 to 1840 was 58¾, so that the per centage of the present year is a fair average one compared with that of former years.

The general health of the patients has, on the whole, been good. Two cases of Asiatic cholera occurred in October. In one of these all the symptoms usually present in this disease manifested themselves, and, but for the prompt treatment of the then resident medical officer, the patient would in all probability have died. In consequence of these cases, and of the frequent occurrence of diarrhœa, which appeared at the same time, your physicians took immediate steps to prevent, as far as possible, the recurrence of other cases. The diet of the patients was improved, strict attention was directed to be paid to the ventilation of the galleries, and to the cleanliness of the patients; and we are thankful to say that no other case of cholera has occurred. Your physicians could not but recollect that the epidemic cholera of 1832 succeeded the influenza of a previous year; and the cholera of 1848 succeeded the influenza of 1847, in the November of which year no less than 100 cases of influenza occurred in the hospital; and it will be remembered that in the autumn of 1833, 23 patients were attacked with cholera, of whom 19 died.

Of the individual cases to which the attention of the General Court should be directed, two are those which came specially under the notice of the Commissioners in Lunacy. Of these, one continues precisely in the same state; the other—viz. a fish salesman, was in July last attacked with great depression of spirits, and violent pain in the head: this was followed by a paroxysm, during which he broke some squares of glass, and asserted that he was commanded by the Almighty to do so; he tore his clothes to shreds, was indecent in his conduct, and dirty in his habits.

With respect to accidents which have occurred in the past year, we have to report one case of fracture of the thigh-bone, and another of fracture of the cranium, both of which unfortunately terminated fatally, the former after a long period, the latter speedily after the occurrence.

Considering how seldom accidents of this sort happen, we have reason for thankfulness that we have not more to report as having occurred in a hospital where every species of insanity is admitted, from the suicidal melancholic to the homicidal maniac; and we have reason also to acknowledge the care of those whose duty it is constantly to superintend the patients, whose eye is upon them at all hours of the day and night, and whose duties are sometimes so arduous, that we have recommended an additional nurse to be employed to share their labours. Nor have we less reason to acknowledge the able superintendence of those more immediately placed over them,—we mean the resident officers of the establishment; and when we consider what has taken place in the past year, we have greater reason for calling the attention of the General Court to this subject.

A. J. Sutherland, M.D., Oxon.
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F. R. Philp, M.D., Cantab.
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and Kensington House, Kensington.

Synopsis of the Two Classes of Patients.

Jan. 1, 1848—	Curable.	Incurable.	Total.
On the Books . . .	120	101	221
Admitted	205	4	209
	325	105	430
Discharged	208	7	215
Remaining in the Hospital	117	98	215

	Males.	Females.	Total.
Average weekly number of patients in the Hospital	91	125	216
Average number of patients attending chapel	33	35	68

Hereditary Predisposition of Curable Patients, admitted during 1848.

	Male.	Female.	Total.
Hereditary	20	38	58
Not hereditary . .	49	85	134
Not ascertained .	2	11	13
	71	134	205

Ages of Curable Patients, admitted during 1848.

	Male.	Female.	Total.
From 13 to 15 yrs.	1	—	1
,, 15 ,, 20 ,,	2	9	11
,, 20 ,, 25 ,,	11	8	19
,, 25 ,, 30 ,,	9	21	30
,, 30 ,, 35 ,,	7	20	27
,, 35 ,, 40 ,,	8	18	26
,, 40 ,, 45 ,,	5	16	21
,, 45 ,, 50 ,,	13	12	25
,, 50 ,, 55 ,,	6	8	14
,, 55 ,, 60 ,,	4	9	13
,, 60 ,, 65 ,,	3	11	14
,, 65 ,, 70 ,,	2	2	4
	71	134	205

Number of Deaths, Curable and Incurable, during the year 1848, *shewing the assigned causes thereof.*

	Male.	Female.	Total.
Disease of Liver .	1	—	1
Erysipelas	2	—	2
Pneumonia . . .	—	1	1
Phthisis	—	1	1
Exhaustion . . .	1	3	4
Apoplexy	—	1	1
Hepatitis	1	—	1
Effusion of blood on the brain, caused by *external* injury . .	—	1	1
Natural Decay . .	—	1	1
Cancer of Uterus	—	1	1
Disease of Heart .	—	1	1
Apoplexy of Lungs	—	1	1
	5	11	16

ADMISSION OF FEMALES AS MEDICAL PRACTITIONERS IN THE UNITED STATES. A DOCTRESS IN MEDICINE.

THE Boston Medical and Surgical Journal, in giving an account of the medical commencement of the Geneva (N. Y.) Medical College, at the close of the recent lecture term, reports that the diploma of M.D. was conferred for the first time on one of the fair sex. Last season, much was said of the sensation produced by a female student attending lectures in that institution, Miss Elizabeth Blackwell, who evinced a persevering determination to be regularly educated to the profession. She has finally triumphed, and the Journals thus describe the public ceremonies, which took place on the 23rd of January, when the lady had conferred upon her the degree which she had sought:—"Next followed the presentation of the diplomas. All eyes were fixed in expectation. The young men, in groups of three and four at a time, were called upon the platform, and received their parchment—17 were graduated. Then was called "*domina* BLACKWELL:" Miss B. ascended the stage. The audience held their breath. The president rose, and after pronouncing the usual Latin formula, delivered the diploma into her hands. Instead of turning away, she stood a moment, as if something remained to be done, and then, in a modest, but audible voice, said—"*I thank you, Sir. It shall be the effort of my life, by God's help, to shed honour on this diploma.*" The feelings of the audience could be restrained no longer, and a round of applause testified their interest in this novel and exciting scene. Professor C. A. Lee then proceeded to deliver the customary address to the graduates. At the close of it he said—"An event connected with the proceedings of this day deserves some notice on this occasion, calculated as it is to excite curiosity and comment, and to be held up as an example to other institutions to imitate or condemn. I mean the conferring of the degree of M.D. upon one of that sex which is supposed to be wanting in the physical, if not moral qualifications necessary for the successful practice of the healing art. So far as I am informed, this is the first instance, in this country, or any other, when a female has graduated in medicine, after having gone through the regular prescribed course and terms of study; and, in the present instance, it is my duty to add, without the omission or slighting of any branch of study, and that too, in so thorough a manner, as to leave nothing unattempted or unattained which it is necessary for one to know, who expects to practise with honour and success in every department of the profession.

"Such an instance of self-sacrificing devotion to science; of perseverance under difficulties and obstacles next to insurmountable; of unremitting, unrelaxing toil, in pursuit of that knowledge so important to, and yet so rarely possessed by her sex—and that, too, for the purpose of mitigating human misery, relieving the sick, and extending her sphere of usefulness in the world—this, I say, deserves, as it will receive, the heartfelt approbation of every generous and humane mind. This event will stand forth in all future time, as a memorable example of what woman can undertake, and accomplish too, when stimulated by the love of science, and a noble spirit of philanthropy."

Miss B.'s inaugural thesis on Ship fever is published in the February number of the Buffalo Medical Journal. Its literary merits are above the average of such productions, and it manifests persevering and praiseworthy research.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 5th April, 1849.—George King, Calne, Wilts—John Rorie, Plymouth—John Wilcocks Wakem, Truro, Cornwall—Edward John Vivian—Joseph Powell Swanwick, Prestbury, Cheshire — John Runcombe, Taunton, Somerset — John Dix, Smallburgh, Norfolk — Theobald Ringer, Langharne, Caermarthenshire—Charles Anthony Floyer, Floore, Northamptonshire—Richard Edmonds Price, Marlborough, Wilts—Edward Leopard Neville, Esher, Surrey — Edward Buckell, Chichester—John Weekes, Tavistock, Devonshire—Franklen George Evans, Cardiff, Glamorganshire—William Kitchen Parker, Peterborough—Samuel Atkinson Brough, Marlborough, Wilts—George Smith, Axbridge, Somerset—Richard Pope Jeston, Henley-on-Thames, Oxon.

BOOKS & PERIODICALS RECEIVED

DURING THE WEEK.

London Journal of Medicine. April, 1849.

British and Foreign Medico-Chirurgical Review. April, 1849.

The Ethnological Journal. No. 11, April, 1849.

Casper's Wochenschrift. Nos. 8, 9, 10, 11, February and March, 1849.

A Calendar of the Queen's College, Birmingham, 1849.

The Case of the Assistant-Surgeons of the Royal Navy. By a Naval Medical Officer.

Practical Observations on Curvatures of the Spine, &c. By Samuel Hare, Surgeon.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, April 7.

BIRTHS.		DEATHS.		*Av. of 5 Win.*	
Males....	647	Males....	507	Males....	592
Females..	578	Females..	487	Females..	577
	1225		994		1169

CAUSES OF DEATH.		*Av. of 5 Spr.*
ALL CAUSES	994	968
SPECIFIED CAUSES	991	959
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*	221	198
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	38	48
3. Brain, Spinal Marrow, Nerves, and Senses	111	123
4. Heart and Bloodvessels	39	39
5. Lungs, and other Organs of Respiration	202	131
6. Stomach, Liver, and other Organs of Digestion	59	62
7. Diseases of the Kidneys, &c.	10	11
8. Childbirth, Diseases of the Uterus, &c.	7	8
9. Rheumatism, Diseases of the Bones, Joints, &c.	6	8
10. Skin	3	1
11. Old Age	33	50
12. Sudden deaths	4	11
13. Violence, Privation, Cold, &c.	11	33

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	9	Convulsions	30
Measles	36	Bronchitis	72
Scarlatina	39	Pneumonia	87
Hooping-cough	54	Phthisis	146
Diarrhœa	8	Dis. of Lungs, &c.	13
Cholera	5	Teething	8
Typhus	38		
Dropsy	13	Dis. of Stomach, &c.	6
		„ Liver, &c.	11
Hydrocephalus	30		
Apoplexy	28	Childbirth	1
Paralysis	20	Uterus	0

REMARKS.—The total number of deaths was 31 above the weekly *vernal* average. The deaths from cholera were only five.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 29·86
„ „ „ Thermometer[a] ...... 45·7
Self-registering do.[b] .... Max. 85° Min. 24·8

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, ·52.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 2° below the mean of the month.

NOTICES TO CORRESPONDENTS.

J. M. M., Edinburgh.—An account of M. Bouchardat's Ioduretted Water will be found in the "Gazette Médicale" for the 9th January, 1847, page 31. It is made by dissolving six grains of iodide of potassium in a pint of water, and adding three grains of iodine. A wine-glassful for a dose.

Dr. Davies, Brighton.—We know of no paper entering fully into the subject. Cases of its administration as a liquid in cholera, have been within the last few months occasionally reported in our pages. No injurious effects have been observed to follow. We shall be happy to record the case: it may be the means of eliciting practical observations from others.

The first part of Dr. J. Warren's (U.S.) paper on Chloroform, and Dr. Rogers's case of Anæsthesia and Paralysis, will be published in the following number.

Dr. Mitchell.—Dr. Duncan has positively stated that he did not know Dr. M. was a competitor. A mere inference or speculation cannot be published as a negative to this statement.

Dr. Davies's letter has been referred to the Advertisement department.

Mr. G. Ross.—Received too late for the current number.

Dr. J. Black, Bolton.—Second paper received. A private letter will be sent.

Mr. Herbert Williams.—Communication received.

THE GENERAL INDEX.

We have to announce to our Subscribers that a GENERAL INDEX to the *first* 40 *Volumes*, of the LONDON MEDICAL GAZETTE will, it is calculated, form a large Volume of about 700 pages. The cost of the INDEX VOLUME, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. WILSON AND OGILVY, 57, Skinner Street, will receive the Names of Subscribers.

Lectures.

THE LUMLEIAN LECTURES FOR 1849.

Delivered at the Royal College of Physicians, London,

BY R. B. TODD, M.D. F.R.S.

ON THE PATHOLOGY AND TREATMENT OF CONVULSIVE DISEASES.

LECTURE I.

Introductory remarks—Definition of Convulsion—Subdivision of convulsions—Choreic—Tonic or tetanic—Clonic or epileptiform—Chorea typical of the first class—Choreic convulsions in gouty and rheumatic states, in white softening of the brain—Tetanus typical of the second: to be classed with it, Trismus nascentium, and Laryngismus—Epilepsy typical of the third, including convulsions of infants, Puerperal convulsions, convulsions from renal or hepatic disease. Clinical history of chorea, two varieties, general and partial—Acute chorea—Non-symmetrical character of the choreic movements—Peculiar movement of the tongue—Paralysis following chorea, and preceding it—Disease of the heart accompanying chorea: this due to rheumatism—Choreic patients often of the rheumatic diathesis—Chorea not a fatal disease—Affections analogous to chorea—Peculiar affection of the hand—Fidgets of children—Points in the clinical history of Tetanus—Clinical history of Trismus nascentium—Of Laryngismus stridulus—Of Epilepsy, phenomena accompanying the fit—Paralysis after epilepsy—Acute Epilepsy—may occur without morbid lesion of the brain—Convulsions of infants—Toxic epilepsy—Puerperal convulsions.

MR. PRESIDENT AND GENTLEMEN,—In every branch of science which depends upon, and, as it were, grows out of observation,—out of the observation not of to-day or yesterday, but of years and ages,—it is of vast importance that its cultivators should from time to time review the existing state of knowledge, examine well the bases on which it rests, and inquire whether the foundation be secure, and whether any change, either by addition or subtraction, should be made in the superstructure: as they to whom is confided the custody of some time-honoured edifice, planned, it may be, by the constructive genius of one man, but reared by the laborious industry of many, at various periods diligently inspect its foundations, search for such defects either in them or in the superstructure, as the less perfect architecture of a previous age may have suffered to exist, and supply these defects by alterations or additions suggested by the progress of knowledge, and the accumulation of experience.

Great advances have been made of late years in our knowledge of the physiology of the nervous system. We can now study the morbid phenomena of that system by the light which a more exact anatomy and physiology of it throws upon it, and likewise with the most important and valuable aid of larger views of pathology, and a more intimate knowledge of the various causes, whether external to, or inherent in, the body, which are capable of disturbing the normal action of the nerves or the nervous centres.

On this account I have chosen as the subject of these lectures a class of diseases, still obscure, but which the progress of general pathology seems likely to rescue from the darkness in which they have hitherto been shrouded. I propose to discuss the pathology of those diseases of which that kind of muscular action, to which the term *Convulsions* may be applied, is, if not a constant symptom, at least a very frequent one, and *the prominent one* when they are present.

It will be necessary for me to state *in limine*, that under the general term *Convulsion* I include all those irregular actions of sets of muscles which are wholly unrestrainable by the influence of the will, and which are excited and kept up by a physical irritant. Thus if the flexors of a limb are thrown into action of this sort, I would say they are convulsed, designating the peculiar mode of convulsion with which they are affected, and so also with larger sets of muscles, and the entire muscular system.

Under this definition of the word convulsion I would refer to three distinct kinds of convulsions, each of which denotes a different cause, and is produced by an affection of the nervous system distinct in kind as well as in position. These are, the jactitating, or chorea-like, or choreic; tonic, or tetanic; clonic, or epileptiform.

The first kind are peculiar jerking movements affecting the muscles of a limb, or of one side of the body and of the face: the movements are exceedingly irregular, wholly uncontrollable by any effort of the will, and only affected by it in this way, that an effort of the will directed upon the disordered muscles tends not to restrain, but greatly to augment the disturbance. There is in general no augmentation of power in the choreic convulsion; on the contrary, it is accompanied by a state of great debility and of imperfect muscular nutrition: sometimes it is preceded by a

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paralytic state, and not unfrequently it is succeeded by it. If any attempt be made to restrain the convulsive movements, they immediately become increased in force and frequency, and there is danger that under a continuance of the restraint a partial or limited convulsion may be converted into a general one. Lastly. The choreic convulsions, however general and rapid, are controlled in the most perfect manner by sleep.

The second, or tonic or tetanic convulsion, is a state of greatly increased muscular tension, which never experiences any complete relaxation, but every now and then undergoes a sudden increase of tension. A muscle thus convulsed may be compared to the string of a violoncello, screwed up to concert pitch, and from time to time made more tense by a sudden turn of the regulating screw, which gradually allows it to return to its former tension. In these convulsions there is doubtless a preternatural development of the muscular force, to such an extent that some of the fibres become ruptured by their own force of contraction. Convulsions of this kind may be exactly imitated by the transmission of the galvanic current in rapid succession through the spinal cord, or by the continuous transmission of the *inverse* current for half an hour through a limb; when, upon the interruption of the current, the muscles of that limb suddenly assume the tetanoid state, which last for a few seconds,—or they may be developed by the poison of strychnia.

The third, or clonic or epileptic convulsion, consists of powerful active contractions of sets of muscles, resembling a succession of forcible voluntary contractions. Each act of contraction is rapidly succeeded by a state of relaxation, and again as rapidly followed by a fresh contraction, and so on until the muscular force is well nigh exhausted, or the exciting force is worn out. The power of these contractions is always great, sometimes extraordinary; so that the combined effort of several strong men is inadequate to hold the patient down: this kind of contraction is not favourable to the rupture of the muscles, but bones are sometimes broken in the epileptic convulsion. I have known even so strong a bone as the femur to have been broken by the muscular struggle.

Having thus defined the nature of the three forms which, I believe, include every variety of disturbed muscular action to which the term convulsion can be applied, I shall proceed to enumerate the various diseases which are characterised or accompanied by these unnatural manifestations of muscular force, and then take a rapid glance at the main features of their clinical history, which will form the premises whence we are to draw our conclusions regarding the pathology of these diseases.

The first class of convulsions is met with in the typical malady, chorea, and in states resembling chorea, although differing from it in many particulars.

The only other conditions under which such convulsions take place, so far as I am aware, are in particular rheumatic and gouty states, and in white softening of the brain, connected with, and probably arising from, a morbid state of arteries.

The type of the second class of convulsions is that formidable malady, Tetanus, the clinical history of which, as resulting generally from wounds, is now so well known.

Along with this I would class that remarkable affection which attacks infants, which has received the various designations of spasmodic croup, cerebral croup, *Laryngismus stridulus*.

The disease called *Trismus nascentium*, better known in the West Indies than in this country, is also very nearly allied to, if not identical with, tetanus.

I would name Epilepsy as typical of the third class of convulsions, and in the same category with it would come the common convulsive fits of children, the convulsions which affect puerperal women, &c.

My remarks on the clinical history of these various maladies will be made in the order in which those diseases have been referred to.

And first, of Chorea.—The disease is one of early life, very rarely occurring after puberty has been well established; and if it do occur later than the ordinary period of life, when the signs of puberty are developed, it is generally found that those signs have not as yet distinctly manifested themselves in the patient. The period to which chorea is most properly restricted is that between 6 and 15 years of age. Of 189 cases observed by Rufz in the children's hospital at Paris, 10 only occurred before 6 years; 179 between 6 and 15; and of the latter number, 118 occurred between 10 and 15.

It affects girls in much greater proportion than boys. Of the 189 cases collected by Rufz, 138 were in girls, 51 in boys.

The muscles affected in this disease are all those connected with the cerebro-spinal nervous system,—those of the head, face, trunk, and extremities. It is very doubtful that even the so-called organic muscles ever suffer; and if the heart is involved at all, its affection is probably of an entirely different kind, and takes place in a different manner from that of other muscles.

The examination of the phenomena of a great number of cases of chorea will show that the disease exhibits two varieties, namely, general chorea and partial chorea; and that the former may be either acute or chronic.

General Chorea.—In *general chorea* the whole external muscular system is involved; the patient is unable to stand or walk; speech is either quite destroyed, or so inarticulate that it is impossible to understand what is said,—such is the disturbed state of the muscles that no voluntary action can be properly performed. The tongue is protruded with the same peculiar jerking effort which accompanies all the other muscular actions; and one wonders that, as it emerges from the mouth, it escapes being injured by the teeth, which the irregular actions of the masticatory muscles press convulsively against it.

The patient, unable to stand, is obliged to remain in bed; and there tosses from one side to another, sometimes rolling incessantly to such an extent that the friction of the most prominent parts of the body against the bed causes stripping and ultimately troublesome sores. And when the agitation is violent, these patients literally shake themselves to death, which is brought on by the exhaustion induced by these unceasing movements.

When the convulsive movements are so violent and unceasing as I have now described them, the disease may be called *acute*, for it must destroy the patient, or cease, in a few days.

Happily, however, this form of the disease is rare, and general chorea occurs most frequently in a more chronic form; the movements, however, being of the same character, less frequent and less active, and with longer intervals of sleep, which restores the patient and provides fresh strength for new agitation.

Partial Chorea.—The most common form of *chorea* is the *partial.* It is needless for me to enter upon any detailed description of the phenomena of a disease which must be so familiar to all my hearers. I will just point your attention to a few of its leading features.

1. The affection is not symmetrical, that is to say, one side of the body is more frequently affected than both; or if both should be affected, one is always much more so than the other. In general, this difference of affection of one side remains with that side whichever it may be; but in rare instances there is a disposition to shift, and for two or three days the right side will be chiefly affected, and then for a longer or shorter period the left side will exhibit the most active movements. This tendency to shift calls to mind a prominent feature of certain rheumatic and gouty affections.

2. Of all the movements which accompany chorea, that of the tongue is the most peculiar and characteristic; indeed I would call it pathognomonic. The patient protrudes the tongue with a peculiar thrust to the fullest extent of which it will admit; frequently this is done by one effort, at other times it requires two or three attempts before it can be accomplished. And the subsequent retraction is also peculiar: the the tongue is drawn back, supported and guided by the pressure of the teeth, and often very slowly and with great caution. Sometimes this peculiar mode of protrusion of the tongue is the precursor of the other choreic symptoms; and if we had frequent opportunities of seeing the cases very early, I have no doubt that this symptom would be found more frequently the harbinger of the more extensive affection. I have, from this symptom only, been able to predict with accuracy that an attack of chorea was coming on.

3. The choreic convulsion is frequently succeeded by a paralytic state of the limbs previously convulsed; the convulsive movements cease, and the limbs remain paralysed; the paralysis is seldom complete, although considerable. When the choreic convulsion had affected one side, the paralysis will likewise affect the same side; it will be *hemiplegic*, and will resemble very closely hemiplegia from diseased brain, for which it is very apt to be mistaken by those not aware of this fact. Not long ago a boy was brought to my house for me to advise whether the hemiplegic paralysis under which he suffered should be treated by antiphlogistic means, such as mercury, &c. I soon discovered that the case was one of choreic paralysis, and advised steel and shower baths, and exercise of the limbs; under which he rapidly recovered.

In a very few instances paralysis *precedes* the choreic convulsion, but so far as my observation informs me, it is then accompanied by the peculiar thrust of the tongue; by this sign I have been enabled to distinguish it.

That paralysis may occur in this way is evidently a fact of the highest practical interest, whilst it is not devoid o' importance as bearing upon the pathology of the disease. Nevertheless I do not find it noticed in any of the descriptions of the disease in the practical works which I have consulted. The previous history of the case, the absence of any other symptom referable to the head, and the gradual mode of invasion of the paralysis, in addition to the peculiar mode of protrusion of the tongue, will always enable the careful practitioner to distinguish this paralysis from that caused by cerebral lesion.

4. The heart is very frequently morbidly affected in chorea; and this morbid affection shows itself, not in any disturbance of *the rhythm* of the heart, which, so far as my observation extends, never is disturbed, but in a derangement of its sounds. A bellows sound is frequently present, and is either aortic systolic, when it is almost

always an accompaniment of the anæmic state of the patient, but *much more frequently* it is *mitral systolic* or *regurgitant.*

I am surprised that this feature of the clinical history of chorea has not attracted more general attention. It has been well known to me for many years, and I described it in the Croonian lectures on the pathology of rheumatism, which were given by me in this theatre six years ago. But to my friend Dr. Addison, of Guy's Hospital, is due, so far as I know, the merit of having first made public the frequent occurrence of this bellows sound in chorea.

What is the cause of this sound? is it due to any irregularity in the muscular action of the heart? a choreic state of that, as of the external muscles, whereby the action of the valves is disturbed? or is it caused by a morbid deposit on the mitral valves, which prevents their precise action; or can it, like the aortic sound, depend on the anæmic state of the patient?

I shall answer the last question first. The closure of the mitral valves is the result of the mechanical accumulation of fluid in the ventricle, which presses the valves towards the auricle, their tension being maintained by the chordæ tendineæ: this effect will be produced no matter what may be the nature of the compressing fluid; a mere colourless state of the blood cannot produce mitral regurgitant bellows sound; some imperfection, either of the valves themselves, or of their mode of apposition, must exist in order to produce such a phenomenon.

It is plain, then, that the bellows sound must be caused by some disturbance in the action of the mitral valves. What, then, produces the valvular derangement? Can it be any disturbance of the muscular action of the heart, any choreic state of the musculi papillares? I apprehend not; for as the closure of the valves is not accomplished by the action of the muscles, it would not be affected by any such irregular muscular action. Moreover, no such choreic state of the heart's action could take place without its being indicated by a disturbance of the heart's rhythm, which, of course, would be very readily detected.

Hence, then, we cannot resist the conclusion, that the mitral bellows sound in these cases is due to such an organic lesion as prevents the complete closure of the mitral valves during the systolic effort of the heart.

But now we are met with another question not less important. What can have created this morbid state of the mitral valves? It is rare to meet any symptom of heart affection, either preceding or accompanying the chorea; and the valvular imperfection is often overlooked, and only discovered by careful auscultation of the heart's sounds.

The true answer to this question is, I believe, to be found in the fact that many of the patients who suffer from chorea are of a rheumatic diathesis, and that in consequence of this rheumatic state they experience an insidious endocarditis which generally affects the mitral valves.

The proof that rheumatic diathesis and chorea are frequently met together, is derived from these facts,—that many of the sufferers from the latter malady, when carefully examined, are found to have previously suffered more or less from chronic articular pains, to have sprung from rheumatic or gouty parents, and to exhibit deranged secretions, such as occur in rheumatic states. I have seen many instances of choreic children passing urine of high specific gravity, loaded with lithates, and sometimes precipitating lithic acid in very notable quantity, and for a considerable time. Choreic patients often suffer from rheumatic fever; and, as the subjects of that fever are very liable to its recurrence, so a child who has once had chorea is apt to have it again and again.

The history of the following case will serve as an illustration of the kind of connection which sometimes exists between chorea and rheumatic fever.

Alfred Brewer, æt. 14, had good health until his eighth year, when he had an attack of rheumatic fever. Four months after this he became affected with general chorea. He was cured of this in seven weeks. A year afterwards he had a second attack of chorea, which affected the left side chiefly. From this time he continued well for four years, then he had another attack of rheumatic fever, which lasted three weeks, and six weeks after this he was seized with his third attack of chorea.

Chorea does not occur in children whose nutrition is in a healthy state, but in those whose digestive powers are feeble, or who are badly fed, either by too abundant and ill-adjusted diet, or by food defective both in quantity or quality. It is not unreasonable to expect to find many rheumatic subjects among such patients, especially among the children of the poor, who are exposed to the inclemencies of the weather.

Lastly, the history of chorea shows that its natural tendency is to recover, and that it very seldom proves fatal. Of the 14,725 deaths which occurred in London in the quarter ending at Christmas 1848, only one was from chorea; and, in the corresponding quarters of the seven previous years, the deaths from the disease did not exceed one, excepting in the year 1844, when there was the curious exception of six deaths from chorea registered; and in 1845, there was no death from that cause.

When we take into account the large number of children affected with this disease, as the records of every hospital and dispenmary will show; and when we remember how many of these cases are neglected, left solely to nature, receiving neither care nor medical assistance,—we are fully justified in laying it down as a feature of the disease, that its natural tendency is to get well.

Whatever morbid disturbance may take place in any of the internal organs calculated to give rise to chorea, it may be presumed from the facts I have detailed that it is not such as does not admit of easy amendment; and the few post mortem examinations on record of patients dead of this disease, show that it leaves behind it no trace of any lesion in any organ of the body likely to produce it. In some of the cases no morbid lesion of any kind could be detected; and it cannot for a moment be imagined that the slight opacities of the arachnoid, the effusion of liquid in the spinal canal, the marks of chronic ovarian disease, noticed in other cases, could at all have the relation of a cause to the phenomena of the disease. How many hundreds of spinal effusions, or opaque arachnoids, or irritated ovaries, have there been without the slightest indication of chorea!

So far for such points in the clinical history of chorea as may serve me as a basis for my argument respecting its pathology.

I have already stated that movements analogous to those of chorea may occur in rheumatic or gouty states. I have known such affections of the upper, and more rarely of the lower, extremity. The affection consists in a sort of fidgetty restlessness of the limb, and a difficulty, and sometimes an impossibility, of accomplishing certain actions with anything like accuracy or precision. In the cases which have come under my own observation there has been a considerable development of the gouty constitution.

There is a curious affection, of which I have met with two examples in my own practice, and of which five or six have been recorded by Albers of Bremen: the prominent feature of it is the inability to hold a pen and to write for any time. The patient begins to write—writes two or three words—when the hand forthwith is spasmodically extended, the fingers cease to be controllable, the pen falls away from them. If the patient attempt to control his pen hand with the other hand, or if any one else does it for him, the movements become worse, and he suffers excessive pain up the arm: yet all other actions are well done, and the power of the hand to grasp is good. One gentleman thus affected is a man of considerable mental endowments, and he has found it so impossible to overcome the irregular movements of his hand, that he has trained himself to write with his left hand, which he can now do with such facility that he can carry on an extensive correspondence.

There can be no doubt that the impairment of speech, which is sometimes a forerunner of cerebral mischief, and which ought always to be regarded as a warning of such an invasion, is of this character. Emotional excitement will cause hesitation of speech in many healthy persons: many can do certain things very well if allowed to take their own time, but if hurried and flurried they are apt to bungle about them very seriously.

In one instance I found well-marked choreic convulsions of the right arm, with disturbed intellect, and gangrene of the toes, associated with extensive colourless softening of the left cerebral hemisphere, involving the optic thalamus.

Allied to the movements of chorea are the fidgets of children, and, perhaps, also those of grown persons. In some children these fidgetty movements are so excessive that the child becomes almost a nuisance in a room. All the muscles are affected; the child incessantly makes grimaces of the most various kinds; every minute he assumes a new attitude; if any thing comes in his way he must handle or touch it: and these irregularities are always the greater when there is derangement of general health. Children thus affected might readily be thrown into the convulsions of chorea by a strong mental emotion.

My second class of convulsive affections is typified by the well-known malady, Tetanus.

The points to which I would beg your particular attention in the clinical history of this disease are these:—

1. The little variation of the symptoms in different cases of tetanus as compared with each other. If you see one well-developed case of tetanus, you have seen all; the variations are only as to the degree of tetanic convulsion: in all you have the tetanic face, the rigid limbs, the locked jaw, the opisthotonos. In the acute form of the disease, indeed, the malady runs its course with much greater, sometimes with extraordinary, rapidity; while in the more chronic form it lasts a fortnight or three weeks, and in a few a much longer period.

2. The fact, now abundantly proved, that these symptoms occur without any lesion of the nervous system appreciable by aided or unaided vision; and what is equally remarkable, the artificial tetanus (if I may so speak) caused by the administration of strychnine in large doses, occurs equally without the slightest lesion of any part of the cerebro-spinal axis. I have examined, with the most scrupulous care, the spinal cords of rabbits which died in strong tetanic convulsions, kept up for some time after

large doses of strychnine, but I could not discover, even with the highest powers of the microscope, any indication of deranged structure.

3. The curious and interesting fact, that tetanus often appears endemically, and its development is favoured by some localities much more than by others. Thus it is well known that the disease, not only in its traumatic but also in its idiopathic form, is much more common in the West Indies than in more temperate climates: and it seems pretty well proved that under modern improvements in diet, ventilation, and cleanliness, as well as under a better mode of treatment of wounds, the disease has become much less common in that climate than formerly. Even in this country we meet with curious instances of several cases occurring in rapid succession in the same locality from exciting causes, which, although themselves frequent and common, have rarely before been followed by the same results.

4. The tendency in tetanus is to death by exhaustion and asphyxia. The frequent return of the attacks of spasm, affecting all the muscles of the trunk, have a most exhausting influence upon the patient; and as the respiratory muscles, and even the muscles of the larynx, are generally more or less involved, the respiratory function becomes seriously impeded. Hence, the most fatal sign is a rapid recurrence of the convulsive attacks, and the most auspicious sign is the prolongation of the intervals between them. Practically the disease should be regarded as one of extremely fatal tendency, and therefore requiring the diligent interference of art to counteract its debilitating influence.

The disease called *Trismus nascentium* is essentially the same as acute tetanus affecting infants, and due to a peculiar state of system developed under deleterious local influences. Under modern improvements in diet, cleanliness, and ventilation, this disease is rapidly vanishing from this country, and has diminished considerably even in the West Indies. Dr. Clarke, by means of good ventilation, reduced the mortality from this disease in the Dublin Lying-in Hospital from seventeen per cent. to five or six: and in Dr. Collins' mastership of the same hospital, extending from 1826 to 1833, the mortality from this disease had fallen to a mere fraction per cent.;* and Dr. Colles states that by adopting the plan of plunging the infants daily in cold water, and dressing the umbilicus with turpentine, the disease, on a particular estate in the West Indies, from having been exceedingly frequent became so rare as scarcely to be met with.

I have classed with the diseases accompanied by tetanic convulsions, that curious, and sometimes highly dangerous disease of infants, the laryngismus stridulus, as it is now generally named, because it has many points of resemblance to tetanus, and because I am of opinion that its pathology is essentially the same with that of that disease.

The features of this disease to which I beg your particular attention are these—

1. That the laryngeal spasms are truly tetanic, and occur in paroxysms: differing, however, from the ordinary tetanus in this, that a more complete relaxation of the muscles takes place in the intervals between the paroxysms, and that a considerable period often elapses before a recurrence of the paroxysm takes place.

2. As in tetanus the paroxysm is brought on by the sudden application of external stimuli, as by a sudden draught of cold air, a start, by sudden mental emotion, by the attempt to swallow, so the same causes tend to produce the paroxysm in the laryngismus.

3. Tetanus sometimes does not extend beyond the muscles of the jaw and throat: this is more frequently the case with laryngismus, but very frequently in the latter disease the tetanic convulsion extends to other muscles: the muscles of the extremities become engaged, and the so-called *carpo-pedal* spasm is induced; the limbs being stiffened, the wrists flexed, the thumbs turned in, and firmly bent into the palm of the hand, and at the same time a similar condition of the ankle and foot, and an inversion and flexion of the great toe. With these there is frequently well-marked opisthotonos, sometimes not extending beyond the cervical and dorsal regions, sometimes affecting the whole spine. During the paroxysm the child's consciousness is unaffected, and after its cessation the child returns to its previous state, appearing no otherwise changed than being more or less exhausted by the greater or less violence of the paroxysm.

4. Laryngismus does not manifest itself in robust and healthy children, but in children often weakly, but always in a state of depraved nutrition, from irregular and imperfect feeding, bad air, and frequently from the irritation of teething. A strong, healthy, well-fed child never exhibits laryngismus. Frequently the similarity of nervous constitution, as well as the mode of dieting of children in the same family, favours the development of the malady in successive brothers and sisters about the same period of infancy; and hence we often hear of instances of several members of the same family having been carried off in infancy by this malady.

5. There can be no doubt that under the continued operation of the exciting causes of the disease, laryngismus tends to a fatal

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* See Collins' Midwifery, p. 513.

result. It exhibits no spontaneous tendency to recover. Death takes place in some cases apparently from rapid asphyxia, much in the way it sometimes does in the cases of rapid development of œdema glottidis, or from the attempt to respire carbonic acid gas; generally the infant dies from exhaustion, brought on by the frequency of the paroxysms, and augmented by the injury to the respiratory function which each paroxysm causes. In such cases the mode of death is exactly as in tetanus. But in a third class the long continuance of the impaired nutrition generates a morbid state of brain, epileptiform convulsions are superadded to the tetanic convulsion, and dropsy of the ventricles takes place, favoured by the retardation to the venous circulation which these frequent attacks occasion, and also, sometimes, by the deposit of tubercular matter in the course of the venæ magnæ Galeni which return the blood from the ventricles and the choroid plexus; and thus the patient dies with all the phenomena of hydrocephalus.

I come now to notice the clinical history of a class of convulsive diseases which is far more common and much more formidable in appearance than any of the others to which allusion has been made, but which is much less fatal than those of the tetanic kind.

And I shall take first the typical malady —*epilepsy*. This disease is characterised mainly by the occurrence at intervals sometimes remarkably uniform in duration, of attacks of loss of consciousness, frequently sudden, often preceded by some kind of warning. These attacks last for a longer or shorter interval, when the patient recovers, as if awaking from a sleep, but continues in a drowsy state for a variable term.

In by far the greatest number of instances these attacks are accompanied by a loss of *voluntary* and *locomotive* power, so that the patient, on the supervention of the attack, falls down, and is thrown into convulsions of the character which I have already described by the name of epileptiform convulsions. These continue for some time —they subside — the state of insensibility remains—and for a variable time the patient continues in a profound sleep, or in a state of heavy drowsiness.

The phenomena which precede the fit vary infinitely, not only in their nature, but in their intensity and in their duration. In by far the majority of cases the precursory symptoms of an attack consist in a disturbed state of sensation, or of intellectual action. Thus the patient has headache, or a sense of giddiness, or some altered state of vision, causing motes or flashes of light, or other more complicated ocular spectra. Sometimes hearing is affected: the patient complains of tingling in the ears, and noises in the head. Or smell may be disturbed, as in the case mentioned by Heberden, where a smell of musk ushered in the attack.

The more complicated precursory phenomena also illustrate my position: thus with one of my patients the warning came on five minutes before the attack, and consisted in a feeling of terror, with violent tremors, and the fancy that he saw persons coming up to him and impeding his attempts to move on. Dr. Watson quotes from Dr. Gregory the curious instance that with a patient of his the warning consisted in the phantom of a little old woman in a red cloak coming sharply up to him and striking him on the head.

Not unfrequently before a fit the patient becomes delirious, sometimes raving mad; then comes the regular paroxysm, and when sensibility returns, the delirium again sets in, and remains for some time. The knowledge of this fact lately saved me from what might have proved a serious interruption and inconvenience. A gentleman, who had had one or two paroxysms of epilepsy, came to my house one morning to consult me: having talked quite sensibly for a short time, he suddenly seemed to lose himself, and then talked incoherently. This excited my alarm: I sent for a cab, and went home with him, and had just arrived at his door when he was seized with one of the most violent and one of the longest fits I ever saw.

The aura epileptica is a disturbance of sensation; but it is remarkable how extremely rarely this phenomenon, so often referred to by writers, is met with. It very seldom happens that we meet with an example of it presenting even a near approach to the description given of it by writer after writer.

The loud unearthly shriek which often ushers in the fit is probably excited by some sudden disturbance of sensation—some severe pain—which causes the patient to cry out, but which the sudden invasion of the epileptic state dissipates from his memory.

In most cases of epilepsy all the voluntary muscles are engaged, but in many instances those of one half the body are much more convulsed than those of the other, and in some the convulsions are altogether limited to one half of the body. I have frequently seen the most intense convulsion of the arm and leg and side of the face on one side, while the corresponding parts on the other side were perfectly quiescent. The action of the heart is very much accelerated in the fit; the terror which its approach induces greatly excites this action, and this excited state continues for some time after the fit has subsided. A dilated condition of the pupil almost invariably accompanies the fit, however slight it may be.

Epilepsy is a disease of all periods of life: it seems not improbable that it may commence even *in utero*, being first developed by some powerful emotion excited in the mother, or due to some other disturbing influence upon the nervous system of the embryo.

Bouchet and Cazanvielh, from sixty-six observations, obtained the following results regarding the periods of life at which epilepsy is most apt to occur:—that from birth to 5 years there were 18 epileptics (9 being congenital); from 5 to 10 years, 11; to 15, 11; to 20, 10; to 25, 5; to 30, 4; to 35, 1; to 40, 2; to 45, 1; to 55, 0; to 60, 1.

A paralytic state remains sometimes after the epileptic convulsion. This is more particularly the case when the convulsion has affected only one side or one limb: that limb or limbs will remain paralytic for some hours, or even days, after the cessation of the paroxysm, but it will ultimately perfectly recover. This is a form of paralysis in a great degree analogous to that of chorea.

There is an acute form of epilepsy, as there is a chronic form also. The acute form is distinguished by the number and violence of the fits, and the rapidity with which they succeed each other: so violent are the fits, that they exhaust, and, if long continued, kill the patient. I have seen patients exhibit a rapid succession of fits for a whole day, with intervals of not more than five or ten minutes, and the exhaustion induced by them has been so great that I have been forced to give stimulants in large quantities to keep the patient alive.

In the chronic form the disease is remarkable for the kind of periodicity which regulates the development of the paroxysms: thus the fit will occur once in 24 hours, or once in 48 hours, or once a week, or once a month, but not with unvarying exactness as to the interval, nor without many disturbances to the ordinary rate of its occurrence. Although this periodicity exhibits some analogy to that of ague, it wants greatly its precision.

Of the tendency to the propagation of epilepsy by hereditary descent there can be no doubt. Cazanvielh and Bouchet make this remarkable statement: 14 epileptic mothers had 58 children: of this number 37 died, the eldest at 14, the rest nearly all of convulsions; 21 were living, of whom 14 were healthy, still young, and 7 already epileptic.

Epilepsy seldom kills: in the record of deaths we meet comparatively few deaths from that cause: epileptics die nominally of other diseases: they are liable to the vicissitudes of other men—accidents, and consequent injuries, not unfrequent (and to these their epileptic condition peculiarly exposes them), fevers, diarrhœa, cholera, &c. These dispose of a large number of them; but a considerable proportion gradually fall into dementia or other forms of insanity, and then they become classed with the insane.

The tendency of epilepsy is to the destruction of the nervous force, in the brain especially, but ultimately throughout the whole cerebro-spinal centres. The earliest indication of the failure of the nervous power is in the weakening of the perceptive powers and of the memory. No doubt the power of attention suffers primarily, and then the retentive faculty becomes damaged. In this way only can we explain the fact that the power of memory for events of *recent* occurrence suffers first, the patient recollecting old events, or facts stored in the mind at a remote period, as well as ever. Ultimately, however, the memory of events of all kinds and at all periods is lost, and the patient becomes fatuous. This failure of the intellectual powers takes place the more rapidly as the paroxysms are more frequent and more severe: it will occur more surely where the fits have been accompanied with much mental disturbance or stupor, than where the convulsive character predominates. Frequent attacks of the epileptic vertigo of Esquirol—*the petit mal*—are in general pretty certain precursors of a state of dementia or fatuity.

It is an important feature in the clinical history of epilepsy that the fits sometimes cease spontaneously, or without any cause which can be recognised. Many a remedy for epilepsy has acquired the credit of curing the disease, when it has happened to be exhibited in a case in which this spontaneous tendency to recovery has manifested itself.

Epilepsy and insanity frequently go together: in some cases the epilepsy precedes, and, as it were, induces the insanity; in others the insanity has the precedence; and in a third class the patients are insane only for a short time before, and for a short time after, the epileptic paroxysm, and then resume a tolerably healthy state of mind until the access of the next paroxysm.

A remarkable and most interesting point in the clinical history of epilepsy is that it may go on for a considerable time, even in its most acute form, without the existence of any morbid change in the brain to be recognised by our means of examination.

Nothing is more certain than that not only one, but several paroxysms of epilepsy may be induced in a person whose brain and spinal cord present all the ordinary appearances of health.

The congestion which is apparent in the brains of epileptics, but which is seldom present excepting in those who have died in the fit, or very shortly after it, is attributable entirely to the impediment to respiration, and consequently to the venous circulation, caused by the epileptic struggle. When death has been not immediately consequent upon a fit, the appearances indicate rather that the brain has not been supplied with its usual amount of blood, and that whatever congestion may exist is found in the veins. Those bloody points on the surface of the centrum ovale which are so often referred to by authors as indicative of a state of congestion are mostly the mouths of veins divided in slicing the hemispheres.

The opaque arachnoids, the enlarged Pacchionian bodies, the adherent dura mater sometimes partially ossified, are often found where there has been no epilepsy, and are rather the signs of the altered nutrition brought on by any cause which creates frequent disturbance of the actions of the brain, than the causes of that disturbance. These morbid appearances are constant, but the diseased actions are periodical: it is therefore highly improbable that the lesions above described would develope the phenomena of the epileptic fit.

The brain itself also suffers in its nutrition; it diminishes in size, the convolutions become small, the sulci between them large: the subarachnoid fluid, which always, in point of quantity, bears an inverse proportion to the bulk of the brain, is increased in amount to a greater or less degree.

Whether tumors, the remains of old apoplectic cysts, spicula of bone growing from the interior of the cranium, indurations of portions of the brain, or the so-called hypertrophy of the brain, can give rise to that which has been called *centric epilepsy*, I must reserve for further discussion when I come to inquire into the pathology of this disease.

There are conditions remarkably resembling epilepsy, and not to be distinguished from it as regards the actual phenomena of the fit, but which occur under such constant circumstances that the paroxysm evidently is related to them as effect to cause. I allude to the convulsions of children—the convulsions induced by the introduction of some poison into the system, or the retention of some material in it which ought to be excreted as soon as formed as urea (the *epilepsia* or *eclampsia toxica* of some authors), the convulsions of puerperal women (eclampsia parturientium).

The ordinary convulsions of children resemble closely the epileptic paroxysm: in many instances, however, there is a great deal of tetanic convulsion combined with the epileptic convulsion. The unconsciousness of epilepsy is always present in the convulsions of children, and the torpor before and after the fit is rarely absent. Signs of the coming struggle are afforded in restlessness, peevishness, diminished intelligence, a heavy and torpid, but not a sleeping state.

Convulsions do not, in general, attack robust and healthy children, but those who are weakly and ill-nourished; not those who are furnished with a good supply of healthy blood, but those whose blood is poor in quality, and often deficient in quantity; children that are improperly or insufficiently fed; or in whom various resources of irritation exist—such as dentition, irregular secretions, &c. And it may be remarked that these sources of irritation favour the development of convulsions more by the disturbance which they create in general nutrition, in the state of the blood, and in the nutrition of the brain, than by any direct influence upon that organ through the nerves.

Of 28,378 deaths of children from infancy to 15 from all causes in London and its environs, in 1848, those from convulsions numbered 2047, or nearly nine per cent. The children in general die from exhaustion, worn out by the repetition of the fits; and, in the vast proportion of cases, anatomy discloses nothing to explain why convulsions should have existed before death more than other morbid phenomena. With proper care and attention to the child, convulsions have not necessarily a fatal tendency—no more than epilepsy; for, judging from the immense number of children who are attacked, the proportion of deaths to recoveries must be small; but on this point we have no accurate statistics.

Let me remark here, that such morbid appearances as are met with most commonly in the heads of children dead of convulsions, are attribntable to the state of general disturbed nutrition of the nervous centres, as in epilepsy, and cannot be regarded as the *cause* of the convulsive paroxysm. The appearances to which I allude are increased sub-arachnoid fluid, or intra-ventricular fluid: they never exist together, as the one may be regarded as antagonistic of the other:—for the most part a pale state of brain, especially of the vesicular matter, with numerous bloody points, formed by the orifices of veins cut in slicing the brain. Now these are appearances constantly met with in the children who have died of other maladies, but in whom no convulsions had been present. Indeed, I think that the position will not be gainsaid, that the pathological state which favours the development of convulsions does not, any more than that of epilepsy, leave any signs which even the most experienced anatomist would recognise.

There can be no doubt that a large number of the cases of convulsions in children from infancy to fifteen years of age, are referable to the introduction into the blood, or the retention in it, of some new material, and therefore may be classed with the convulsions to the clinical history of which I am now about to refer.

So excitable is the nervous system of children, that the development of a fever, especially if caused by the introduction of a poison, is very apt to be ushered in by convulsions, which sometimes prove fatal, and certainly will be more likely to prove fatal if the treatment be conducted with the idea of suppressing the present evil, neglecting to look to what the child has to undergo after the convulsions have ceased. All practical men are familiar with convulsions in connexion with the early development of small-pox, measles, and especially of scarlet fever.

An artificial epilepsy may be produced by the administration of certain poisons; as the œnanthe crocata, conium, and prussic acid. In poisoning by this latter substance, the epileptic convulsions are frequently complicated to a very great extent with those of the tetanic kind.

These facts prepare us for the doctrine that the retention of certain important excretions in the blood, which their proper organs are incapable of eliminating, favours the development of a state exactly resembling epilepsy in the phenomena of the convulsive fits. When the liver or kidney are in such a state that the elements of the bile, or those of the urine, are not separated in their normal quantity, the patient is very apt to have several convulsive fits, which often terminate his existence. Renal disease is a much more fruitful source of convulsions than hepatic, and the form of disease in which they are most apt to occur is in that small contracted kidney which by some is regarded as a stage of Bright's disease, but which, in reality, is a special morbid state of kidney, a chronic nephritis, frequently produced by gout, and therefore forming the finale of many a gouty patient's career, but often resulting from other causes. In this state of kidney, the gland has shrunk chiefly at the expense of the cortical substance; the growth of epithelium (the immediate agent in the separation of organic products) is greatly impaired, many of the renal tubes are stripped of it, and no development of epithelium at all takes place in them. Hence, while in many of these cases water is freely eliminated, and even a diuresis takes place of an urine pale, and of low specific gravity, the organic products, urea and uric acid, accumulate in the blood, and act, especially the former, as a poison to the nervous system. Any state of kidney, however, if it be unfavourable to due elimination, may give rise to these symptoms; and accordingly I have seen them in that acute affection of the kidneys which is associated with inflammatory dropsy, and with dropsy after scarlet fever, to which my friend Dr. Geo. Johnson, has given the appropriate name, *Desquamative nephritis*; and also in fatty disease of the kidney, where the accumulation of fat has taken place to such a degree as greatly to congest the Malpighian bodies, and to interfere seriously with elimination.

Among the first, if not the first, to announce the important fact, that imperfect action of the kidneys may induce convulsions with fatal tendency, is Dr. Wilson, of St. George's Hospital, who communicated his views in a valuable paper read to this College in 1833. Dr. Bright and Dr. Addison have also contributed largely to our knowledge of this important subject. The latter distinguished physician has published a valuable practical paper on the affections of the brain which are associated with renal disease in an early volume of Guy's Hospital Reports.

I shall conclude by referring to another, and a very formidable form of convulsions, which, as occurring at a period when the patient stands much in need of mental composure, as well as of physical strength, often occasion serious consequences to her, and great embarrassment to the practitioner,—I allude to the form of convulsions commonly called puerperal.

These convulsions are truly epileptic: the paroxysm, excepting as regards the concomitant circumstances, is not to be distinguished from that of epilepsy. There are the insensibility, the foaming at the mouth, often the bitten tongue, the convulsive actions, and the torpor after the subsidence of the fit. These convulsions are sometimes accompanied by a maniacal state, either before or after the fit, as in ordinary epilepsy.

As far as I can collect from the records of the experience of others (for on this subject I must confess that I have no experience myself), there seem to be three classes of cases in which convulsions form prominent symptoms.

The first class consists of women pregnant for the first time, previously in good health, or, at least, with whom no sign of deranged health has been detected; or, in the words of a high obstetrical authority, Dr. Collins, "strong plethoric young women, with their first children, more especially in such as are of a coarse make, with short thick necks."

The second class consists of women, of greatly impaired health, who may have suffered recently from hæmorrhage.

And in the third class we may place women who suffer from disease of the kidney as manifested by an albuminous state of the urine.

A few cases likewise seem to result from the sudden development of apoplexy during parturition; one or more vessels give way, and the convulsive paroxysm is induced by the laceration of the brain's substance, caused by the rush of blood into it.

And it must be borne in mind, that some of the patients may have been previously epileptic, and the occurrence of a fit near to, or during the period of parturition, may be merely a coincidence.

Such cases as these, therefore, and those of the apoplectic kind, ought not to be placed in the same category with *puerperal* convulsions.

My friend Dr. Murphy, Professor of Midwifery in University College, in some very valuable lectures lately published by him in the MEDICAL GAZETTE, makes a distinction between *sthenic* and *asthenic* convulsions, which is obviously most important in a practical point of view.

Puerperal convulsions occur before, during, or subsequent to parturition; sometimes they will begin before labour commences, come again during labour, and finally recur after parturition. Of 200 cases collected by Dr. Murphy from various sources, forty-six occurred before labour, twenty-five after labour, and ninety during labour; respecting the rest no precise information could be obtained. Enough, however, is known to indicate that the change in the system preparatory to and during labour has most to do with the convulsive paroxysm.

The statistics of these convulsions show that they must be considered, on the whole, as of a fatal tendency, for of 192 cases 48 died; but it does not seem probable that in these cases the patient died solely from the convulsions. The results denote that the mode of delivery had something at least to do with the fatal issue of the case, as the deaths when turning took place were one in two; whilst those when the labour was natural, were one in four and a half.

Of the post-mortem appearances nothing more is to be said than what I have already stated respecting the other convulsive diseases—namely, that the brain presents an essentially normal appearance. If the patient die in the struggle, the brain is much congested,—otherwise the amount of congestion is not excessive; and, in some of the cases, the brain is in an anæmic condition.

ANNI MIRABILES.

A WRITER in the French journal *L'Union Médicale*, asserts that, of the last four years of our epoch, each has been remarkable for some universal calamity:—

1846—The potato disease.
1847—General famine.
1848—Revolutions throughout Europe.
1849—Cholera Morbus.

Original Communications.

ON SOME CEREBRAL AFFECTIONS SIMULATING IMPENDING APOPLEXY, &c.

Read at the Physical Society of Guy's Hospital, Dec. 2, 1848.

BY H. M. HUGHES, M.D.

THE dogma formerly current, "that the quantity of blood in the cranium is always the same," in consequence of the unyielding nature of its bony parietes, and of the almost perfect incompressibility and inelasticity of the cerebral matter, has been, I think, satisfactorily proved by a recent author to be erroneous. The experiments of Dr. Kellie have been shown to be fallacious: the doctrines founded upon them, therefore, and the theories of cerebral disorder deduced from them by Drs. Abercrombie, Clutterbuck, and various other authors, may be presumed to be almost necessarily incorrect.

The premises having been proved untrue, the arguments deduced from them, however subtle and ingenious they may appear, must lose their importance, and the accomplishments of their honoured propounders must in this respect be little regarded, however highly we may otherwise estimate them.

If Dr. George Burrows had, by his talent and industry, effected nothing more for pathology than the elucidation of the circulation of the brain by experiments, the results of which were first promulgated in the lectures delivered at the College of Physicians, a high meed of praise would be his due, and deep gratitude would be a debt of the profession.

All who are moderately conversant with recent medical literature must be acquainted with a cerebral affection in infants which, in many respects, resembles the advanced stage of hydrocephalus, but which is not merely not attributable to that complaint, but which arises from a pathological condition almost directly opposite to that producing it. But though the essays of Drs. Marshall Hall, Abercrombie, Goch, and several others, have now been before the profession for many years, it may be still doubted if the distinction between the two affections, involving such important and such vital consequences, is even now generally recognised, or duly estimated. It may be questioned if leeches are not yet applied to the heads of infants whose sole disease is lack of blood, and whether children are not still actively purged for the disorder which has been itself induced by over purging. I now refer, however, to this affection merely as one, among many instances, in which increased fulness, or increased pressure of the cerebral vessels, is accompanied by symptoms very similar to those existing when the supply of blood to the brain is deficient.

Every practical surgeon of large observation, and every practical accoucheur of extensive experience, is well aware that giddiness, headache, dimness of vision, singing in the ears, throbbing of the temples, restlessness, sopor, and even a disposition, or approach to coma, are symptoms which occasionally follow extensive hæmorrhage as well as accompany plethora, or "determination of blood to the head."

We are reminded by Dr. George Burrows, that even Hippocrates observed that repletion and depletion of the vascular system were accompanied with similar symptoms of disturbance to the nervous centres. I shall quote a few well-authenticated instances, illustrative of this fact, many of which are mentioned by Dr. Marshall Hall, in his Essay on Bloodletting, and taken from authors of high repute. "A lady," who had been cupped twice or thrice a week regularly, by a friend of Dr. Hall's, "was affected with extreme pain of the head, violent throbbing of the temples, slight delirium, and sickness, and the street was found covered with straw." These symptoms increased so much during the day, together with "feverishness and a frequent strong pulse, that it was apprehended inflammation had taken place in the brain. The arm was actually tied up for bloodletting, but the remonstrances of he patient, the history of the attack, and the recollection of some remarks on the loss of blood, read some years before, happily led to the abandonment of this measure." "Fortunately both for the patient and myself," says the relator of the case, "her repugnance to bleeding prevented me from using the lancet, and so saved her life. She earnestly requested to be allowed a little brandy; I gave it her: it obviously afforded much relief, and I began clearly to see the nature of the case." The lady recovered under "light cordials, mild diet, rest, quiet, and attention to the bowels."

Dr. Cooke, in his notes to Margagni, gives instances of similar symptoms following extensive hæmorrhages, but refers them, as I believe incorrectly, to cerebral plethora.

"A lady, aged 25," says Dr. Abercrombie, "had been frequently bled on account of symptoms in the head which had supervened upon an injury. Considerable relief had followed each bleeding, but the symptoms had soon returned, so as to lead to a repetition of the bleeding, at short intervals, for several months." When Dr. Abercrombie saw her, "she had a deathlike paleness, and her pulse was very rapid, and as small as a thread;" but still she complained of frequent headache, violent throbbing in the head, confusion, and giddiness. "It was agreed, as a last experiment, to make a trial of an opposite system—nourishing diet, and tonics. In a fortnight she was restored to very tolerable health." The same author reports the case of a lady, who, after leeching, and other depletory treatment employed with benefit for a painful abdominal hardness following delivery, was, after three weeks, when reduced in strength, alarmed and agitated, and began to talk wildly and incoherently, and, "after a restless night, was in a state of high excitement, talking incessantly, screaming and struggling, with a wild expression of countenance, and a small, rapid pulse." Leeches, cold applications, and purgatives, were employed, with little or no benefit. A full glass of white wine was afterwards given every hour, and after the fourth hour she was found composed and rational, her pulse 90, and of good strength, and from this time there was no return of the symptoms." He also observes, "that in the last stages of exhausting diseases, patients frequently fall into a state resembling coma; and I have frequently seen children lie for a day or two in this kind of stupor, and recover under the use of wine and nourishment. It is scarcely to be distinguished from the coma which accompanies diseases of the brain. It attacks them after some continuance of exhausting diseases, such as tedious and neglected diarrhœa." "I have seen in adults the same affection, though it is perhaps more uncommon than in children. A man, considerably advanced in life, in consequence of a neglected diarrhœa, fell into a state closely resembling coma." An elderly lady, from the same cause, had loss of memory, and squinting. "Both these cases recovered by wine and opiates: in the former, blistering on the neck was also employed." He adds the very remarkable case of a gentleman, about 30 years of age, who had been reduced to a state of extreme weakness and emaciation. As debility advanced he had become considerably deaf; and "when I saw him," says the Doctor, "he was affected in the following manner:—He was very deaf while sitting erect, or standing, but when he lay horizontally he heard perfectly. If, when standing, he stooped forward, so as to produce flushing of the face, his hearing was perfect; and, upon raising himself again to an erect posture, he continued to hear distinctly so long as the flushing continued: as this went off, the deafness returned." Dr. Marshall Hall states that "he is persuaded that loss of blood is by far the most frequent and influential source of delirium and mania occurring in the puerperal state." It is strange that, with such facts before him, so accurate and close an observer as Dr. Abercrombie should not be led to doubt the truthfulness of the doctrines deduced from the experiments of Dr. Kellie, which experiments, imperfect and inconclusive as Dr. G. Burrows has shown them really to have been, appear entirely to have warped his judgment in reference to the cerebral circulation. Richter and Mr. Travers relate cases of amaurosis resulting from loss of blood; and the latter author says, "A country lad, of robust constitution, became the alternately favoured paramour of two females, his fellow-servants, under the same roof. He was the subject of gutta serena in less than a twelvemonth." He refers to another lad, who had palsy of the retina as a consequence of secret indulgence. "When bleeding," says Sir Benjamin Brodie, "has been carried to a great extent, symptoms frequently occur, which in reality arise from loss of blood, but which a superficial observer will be led to attribute to the injury itself (concussion of the brain), and concerning which, indeed, it is sometimes difficult even for the most experienced surgeon to pronounce, in the first instance, to which of the two causes they are to be referred." Many quotations bearing upon the same point might be added; but it may be presumed that sufficient, and perhaps more than sufficient, evidence has been adduced from authors of high repute to show that a great variety of symptoms which are commonly, and under certain circumstances are correctly, considered to be indicative of the consequences of inflammation of the brain, or of oppressed cerebral circulation from repletion or pressure, may, and not unfrequently do accompany conditions of the brain which are the direct reverse of these,—such as loss of blood, or anæmia and debility, from whatever cause arising. It is not within the scope of the present communication, which is of a purely practical character, to attempt to explain the proximate cause of this similarity of symptoms existing under circumstances diverse and even opposite. It is sufficient for me, I think, to have pointed out the circumstance, and to have advanced evidence from esteemed authors of the fact, for the purpose of an introduction to the observations which follow.

Many writers, and among others Drs. Copland, Holland, Watson, George Burrows, and Copeman, have recently insisted upon the injurious, and even fatal consequences which may result from venesection in some forms of apoplexy; and have pointed out the obvious differences which exist in the symptoms, attendant circumstances, and pathology of that complaint, and the caution which should be exercised in its treatment. The validity of these opinions is now generally acknowledged. The indiscriminate use of the lancet—"that invariable refuge of the timid and the ignorant"—in all cases of apoplexy, would, it may be presumed, be advocated by few practitioners of experience. Notwithstanding this, the only notices with which I am acquainted, which appear to myself to have reference to the peculiar, but by no means uncommon affection to which I am anxious to direct the attention of the Society, are from the pens of Drs. Abercrombie, Holland, and Marshall Hall.

Dr. Abercrombie, at page 310 of his very valuable work, says, "I have repeatedly been consulted under the following circumstances:—A gentleman accustomed to very full living is seized with an apoplectic attack, or with symptoms indicating the most urgent danger of apoplexy: he is saved by bleeding, and other free evacuations, and is kept for some time on a very spare diet. His complaints are relieved, and as long as he keeps quietly at home he goes on without any uneasy feeling; but when he begins to go abroad he becomes liable to attacks of confusion and giddiness, generally accompanied with palpitation of the heart, and an uneasy feeling about the præcordia. His pulse is now soft and rather weak, and his general appearance indicates the very reverse of plethora; and these symptoms are removed by a cautious improvement of his regimen. This curious fact I have repeatedly had occasion to attend to in the treatment of cases of this kind, and it has always appeared to me to be one of very great interest in reference to the pathology of the brain."

The slight sketch here given must, I think, be familiar to every observant physician of extended experience, as the subjects of it must be very frequently submitted to their notice.

I might quote largely from Dr. Holland's paper on "Bleeding in Affections of the Brain," but I content myself with the following sentences:—"Little heed is taken of the many cases where the symptoms depend upon irritation alone, or on loss of nervous power, or on deficient circulation in the brain, or on altered qualities of the blood, or, it may be, on morbid changes in the nervous substance itself. Theory might suggest that in some of these various cases the loss of blood would lead to mischief. Experience undoubtedly proves it." "It is certain, indeed, that there is a state of brain best, perhaps, represented to us in its general effect of diminished nervous power, which tends to produce sometimes spasmodic seizures, sometimes delirious or maniacal affections, sometimes palsy of different parts of the body: these effects being in no wise obviated by depletion, but rather increased by all such means; while they are relieved by remedies which tend to excite the energy of the sensorium, and to augment the general power." "I have known many instances where bleeding has been repeated to remove the very symptoms which, it was next to certain, it had been the means of bringing on."

Dr. Marshall Hall writes, in page 31 of "Disorders of the Nervous System," "too great action of the minute arteries, congestion in the veins, an anæmious state of the vascular system of the encephalon, alike induce morbidly exalted and impaired conditions of the mental and cerebral functions." The same author, in a paper "On the prevention and treatment of Apoplexy and Paralysis," published in the 1st volume (new series) of the "Transactions of the Medical Society of London," writes, page 188, "I have repeatedly been consulted by patients with a pallid and anæmious countenance, who have been in a state of constant alarm by continual use of blood-letting, or application of leeches, whom an opposite course—especially a mild chalybeate—adopted and pursued with due caution and prudence, has rescued from this state of alarm, and of danger, too (for there is, as I have said, danger even of apoplexy and paralysis in a state of inanition), in a moderate time." Again, page 194, he says, "I repeat that it is not plethora alone which predisposes to the apoplectic and hemiplegic attack; and that the opposite condition of the system, whether it arises from the loss of blood by blood-letting, or hæmorrhage, or from defective sanguification, is not free from danger."

The particular form of complaint to which I am anxious to invite attention is, I fully believe, included among the cases to which reference is made in the preceding extracts. It is true that it does not, at least generally, involve the issues of life and death; but a correct discrimination, and just treatment do, I believe, assuredly involve a restoration to health on the one hand, and a continuance of mental weakness and bodily infirmity, on the other. Perhaps I cannot better, or more concisely, place it before you, than by briefly mentioning two or three cases. In the year 1844 I was summoned to the vicinity of Sydenham, to see a gentleman for an affection of the brain. He had been for many years in business as a grocer, was married, and the father of several children, and had recently retired at a comparatively early period of life (about 45), with a small competency, and had taken a house near Sydenham, for the summer months. He was short and stout, pale and flabby, and for some few days had been troubled with severe headache and giddiness, singing in his ears, and indistinct vision, which greatly alarmed him. A medical gentleman had seen him, and ordered a few leeches to the temples, and a mercurial purgative, with some saline aperient, but without benefit. His medical attendant from London was summoned to his assistance. The two gentlemen met, and differed as to the proper course of treatment to be pursued; the one advocating depletion and active purgatives, "to ward off apoplexy,"—the other advising generous diet, gentle exercise and tonics, to remove the effects of defective circulation in the brain. My opinion was asked in this diversity of sentiment, which, however, was then unknown to me. On the one hand, it was said that he had formerly been threatened with apoplexy, and relieved by bleeding; on the other, that he had been already leeched and purged, and was, at most, only temporarily relieved. I found his tongue clean, pale, moist, and indented; his pupils dilated and sluggish; his pulse large, but soft and compressible. His heart feeble, but apparently free from disease; his urine sometimes clear and large in quantity; at others, scanty, and loaded with lithates, but not at all coagulable by heat. I ascertained that the patient had lived well, but moderately,—that he generally felt worse when in the erect position, or sitting up, and was always relieved by lying down on the bed or couch. Without being then aware of the diversity of opinions existing between his medical attendants, I was requested to prescribe, and to lay down a plan of treatment. I wrote a prescription containing iron and ammonia, recommended passive exercise in open air, gentle aperients, and generous diet. Though I was gravely informed by one of the gentlemen that the patient would within two years at most be carried off by apoplexy, while he was walking in the street, I had the satisfaction of hearing in a few weeks that he had much improved, and I have the additional satisfaction of stating he is now, or within a few months was, carrying on a large business in the metropolis, and, though suffering from a purely local affection of the rectum, was in the enjoyment of good general health. I regret to add, that his medical attendant who foretold his death from apoplexy, is himself since dead; and it is somewhat remarkable that his death was supposed by those competent to judge, to have been hastened, if, indeed, it was not caused, by the application of leeches to the temples, for a presumed affection of the brain.

A stout man, aged about 50, applied among the out-patients at the hospital a few weeks ago, on account of severe giddiness. (I may here observe that in this field of practice such cases are continually occurring, as will, I feel assured, be readily acknowledged by those who are in the habit of attending it.) He was a retired publican, having given up business nearly two years before. He was short, stout, and pale; had formerly been in the habit of living more freely than at that time, and had suffered from disagreeable symptoms affecting the head for some weeks, and for these he had taken medicine without benefit. He stated that he suffered occasionally from pain and throbbing in the head, but was principally affected with giddiness, which usually attacked him in the street, and sometimes to so great a degree, that, unless he took hold of some support, he would frequently fall, and that he had once actually fallen down in the street. He slept well, and had a good appetite, and made, in fact, no other complaint. His tongue was clean, pale, and moist; his pulse large, soft, and compressible, and his pupils dilated and sluggish. Having ascertained that his heart was not diseased, and that no evidence existed of disease of the kidneys, I prescribed, after a purgative, some Mist. Ferri C. with Decoct. Aloës C. and Sp. Ammon. C. He presented himself only on two occasions subsequently, two weeks in succession, and on both represented himself to be improving in every respect. I think that I may therefore fairly presume that he considers himself well enough to do without any more medicine, though I have not seen or heard of him since.

A gentleman applied at my house for advice on account of sudden attacks of giddiness, temporary insensibility, and loss of memory. He was about 38, a bachelor, tall, thin, and of dark complexion, and was engaged in writing at the Custom House for several hours during every "lawful" day in the week. He assured me that he lived regularly, and, after repeated questioning and cross-examination, stated that he was not aware of any cause for his complaint. He had no pain,—ate, drank, and slept well, but was a good deal alone. His tongue was clean; his circulation feeble; his hands cold and rather purple,—the colour, when removed by pressure, returning slowly. He was nervous, low-spirited, and anxious. His attack always came on while he was at the desk, was, as before stated, of brief duration, and consisted of giddiness, temporary loss of consciousness, and more durable loss of memory. I prescribed a similar course of treatment to that mentioned above, and advised that he should mix more in society, and that, if a suitable opportunity offered, he should get married. I have only seen him once since, when he was slightly improving.

I have been repeatedly consulted by a lady whose case in the first instance caused me considerable anxiety, as it was attended by circumstances which had the effect of materially complicating the diagnosis. She was 64 years of age, and had been the mother of several children: she had generally enjoyed excellent health: had lived rather freely, and mixed a good deal in society; but at former periods of her life had been several times cupped for presumed "determination of blood to the brain." She came to me under the impression that she was then suffering from a similar affection, and was, in truth, troubled with giddiness, occasional loss of consciousness and of memory, a disposition to sleep, beating in the head, and ringing in the ears. She sometimes staggered in her walk, so as to be in fear of falling; her bowels were open, indeed rather relaxed, from medicine previously taken without benefit; her tongue was clean, pale, and moist; her pupils were natural; her face was pallid, and she had the general appearance of debility and anæmia, rather than of plethora; but her pulse was between 70 and 80, and exceedingly hard and powerful. Upon further examination it appeared evident that she had disease of the aorta, with an hypertrophied left ventricle, and in all probability disease of the small arteries. The circumstances were sufficiently important to demand the utmost caution, and sufficiently delicate to require the nicest discrimination. Upon further inquiry I ascertained that the symptoms principally affected her when it appeared probable that the general circulation was feeble, and when that of the brain in particular was defective; and that they were diminished by circumstances which improved its general vigour, and increased its determination to the brain. She was always worst when first rising in the morning, or after fatigue, and was uniformly relieved by lying down. She felt most giddiness in ascending or descending stairs, and was less, rather than more, giddy after taking her dinner. She was rendered dizzy by looking up to the ceiling, and was always pretty well while she retained the recumbent posture. From a consideration of these circumstances, I was induced, instead of ordering her to be cupped, cautiously to improve her diet, and to administer a gentle stimulant tonic. She improved under this plan of treatment: I was therefore encouraged to proceed with similar means, and to increase their power. She was ordered to live well, to take a glass or two of wine with her dinner; to use only moderate exercise; to take more nourishment at shorter intervals than she had been accustomed, and, as medicines, she was prescribed steel and ammonia. The adoption of these means was followed by the restoration of her former good health, to the great relief of the extreme anxiety of herself and friends. She has more than once consulted me under similar circumstances: has been advised to adopt a similar plan of treatment, which has uniformly been followed by a similarly beneficial result.

The general symptoms in this case presented nothing peculiar. The circumstance which renders it especially worthy of notice, and which formerly rendered it to myself more than ordinarily perplexing and delicate, was the co-existence of hypertrophy of the heart, arising from diseased arteries, (considered, and I believe correctly considered, to be a *fruitful* source of apoplexy) with symptoms simulating those which precede apoplexy from plethora; but symptoms which might possibly arise, and which, by the results of treatment, were proved actually to have arisen, from causes diverse from, if not in truth opposite to, plethora.

Cases of this kind, varying in some particulars, but bearing a general resemblance to each other, might be mentioned in great numbers. They are constantly being presented to my own notice, and must, I feel assured, be familiar to all who are extensively engaged in practice. Yet observation induces me to believe that their nature is continually mistaken, and that a plan of treatment is too frequently adopted for their cure, which is calculated to increase the symptoms rather than to remove them. Upon any lengthened detail of their symptoms I think it unnecessary to enter, particularly as they vary considerably, and are differently combined in different persons. It is sufficient, perhaps, to say, that the cerebral symptoms are such as, in systematic works, are usually stated, and by the patient are generally considered, to indicate too great fulness of the vessels of the brain, "determination of blood to the head," or other disease of the nervous centres, while, in truth, the actual condition is one exactly opposed to such fulness and local determination. Upon what particular condition of the nervous fibre, as regards the circulation within it, these affections depend, I am not prepared precisely to determine, nor is it necessary to my present purpose that I should inquire. Certain it is, or at least appears, that very similar symptoms may accompany a plethoric and an anæmic condition of the brain, or an augmented and a diminished amount of vascular pressure.

The exciting causes of these affections are, generally speaking, either the existence of circumstances or habits which absolutely depress the vital energies, or the withdrawal of those circumstances or the discontinuance of those habits which have previously contributed to maintain and invigorate them. Among the former may be mentioned exhausting discharges, as long-continued diarrhœa, or leucorrhœa, bleeding from the nose or from hæmorrhoids, and especially excesses in venery, or self-pollution;* prolonged study, habitual confinement in crowded and ill-ventilated rooms, anxiety of mind, depression from loss of friends or of worldly means, worry of business, and the general wear and tear of an over-strained mind and body. Among the latter may be enumerated the withdrawal of accustomed stimuli, whether in the form of wine, meat, or porter; or the cessation of mental and bodily occupation, to which the individual had been previously accustomed. It not unfrequently occurs, and I have often had occasion to treat it in teetotalers.

It need scarcely be said that *the diagnosis* of this affection, from whatever cause arising, is a matter of the utmost importance, particularly when it is recollected that "tendency to apoplexy" is placed, by Dr. Marshall Hall, the first in the scale of diseases which dispose to an "augmented tolerance" of the loss of blood

I am very far from wishing it to be supposed that I am never myself mistaken in the diagnosis of such cases, and that I am able to direct others so as uniformly to avoid falling into error; and I willingly acknowledge that I am not very unfrequently in doubt as to the exact nature of the case submitted to my observation. But I believe that the following considerations will generally assist the physician in arriving at a correct conclusion:

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* As one among many instances of this proving an exciting cause, I may quote part of a note addressed to me, some years since, by an out-patient at the hospital.—"Sir,—Agreeable to your wish, I have wrote a short statement of my course of life of late years: you are the only physician that ever made any allusion to secret vice. Since you alluded to a secret vice being the cause of my suffering, I have traced back my life, and am now fully convinced that my own folly has been the cause of my present wretched existence. * * * Ever since I came home from India I have been very much depressed in spirits. About last Christmas I became very weak, accompanied with giddiness in my head, singing noise in my ears, dreadful terror, dimness of sight, craving appetite, parching thirst, the most distressing thoughts are constantly preying on my mind, the least thing excites me, I feel a sensation over my body as if I was cold and numb, I have suffered severely from dysentery, rheumatism, and ophthalmia in the eye; all these combined together are not to be compared to my present suffering."

First. The history of the case, and the particular circumstances under which the symptoms have arisen. 2dly. The general appearance of the individual. I think I have observed that the parties suffering from this affection are ordinarily either thin, pale, and delicate, as well as weak; or that, though short and stout, they are pale, flabby, and anæmiated. This, however, is far from being without exception, as I have seen persons suffering from it, who presented in many respects the very appearance which is popularly believed to be that peculiar to apoplectic subjects—viz. a short thick set person, a short bull-neck, and a red face. 3dly. The pulse is either small, frequent, and feeble, and is sometimes accompanied with the peculiar thrill of hæmorrhage and chlorosis; or, though large and apparently full, is very soft and compressible. Unless the affection is accompanied with diseased heart or arteries, it is never full and at the same time hard and incompressible. The extremities are usually cold, sometimes numb, and not unfrequently purplish from a languid circulation; at other times they are soft, moist, and flabby. The tongue may be loaded, but it is more frequently moderately clean, and more frequently still is morbidly clean, pale, expanded, and indented. 4thly. The symptoms generally affect the patient while walking, or while in the erect or sitting posture; are not increased, but on the contrary relieved by lying down; and are often, in fact generally, most troublesome upon first rising in the morning. Ordinarily, though not universally, they are not increased by stooping. 5thly. No heaviness, and no increase of symptoms, is experienced after a full meal. The individual is usually well while in bed. 6thly. Depletory measures previously employed, though they may have apparently relieved the patient for the time, have been uniformly followed, *in a short period* (*in a day or two at most*), by a recurrence and even an increase of the symptoms, and have usually been adopted without relief. 7thly. The patient has never found himself worse after a glass of wine or other stimulant, excepting perhaps from its immediate and purely stimulant effects; but on the contrary has usually been relieved, if indeed he has ever ventured upon the experiment of taking it, or been allowed by his medical attendant to take it. 8thly. In some cases, but in some cases only, an anæmic murmur may be heard over the aortic, or rather (as I believe) over the pulmonary valves, and a "continuous humming," or "bruit de diable" (evidently producing *light* pressure of the stethoscope) over the *veins* of the neck. Whenever these symptoms are observed, when, that is to say, they truly exist, they constitute important aids to diagnosis, and equally important indications for the treatment necessary for the safety of the patient. It is of importance to recollect that, before deciding upon a plan of treatment, the heart, as well as the pulse, should be always examined; and that the force of the two should be compared; otherwise serious mistakes may arise, and injurious consequences may result: as the heart may be beating with unusual force, while the pulse is feeble, or the strength of both heart and pulse may be diminished, though serious organic disease may exist in the former; and the brain may be seriously, gravely, and even dangerously oppressed with blood, though the impulse of the central organ of the circulation may be diminished.

Dr. George Burrows has very opportunely insisted upon the necessity of taking cognizance of this important fact. The secretion of the kidneys should likewise always be tested in cases in which any doubt exists, as the presence of renal disease might suggest, and probably would necessarily involve, a material modification in the diagnosis, and might also involve a considerable modification of the treatment.

As to the treatment of the affection to which I have herein hastily directed attention, little need be said. Tonics, and particularly chalybeate tonics, with good diet, plenty of fresh air, moderate exercise, together with a gentle and regular action of the bowels, constitute the means which are alone required in decided cases of the affection. With these means should be, of course, combined the suppression of any exhausting discharge, and the discontinuance of any debilitating habits which have, or may have been suspected to have had, an influence in producing the complaint. In very advanced cases, as in the case of Dr. Abercrombie already referred to, direct and frequently repeated stimulants may be necessary. In doubtful cases (and some such will, I feel assured, occur to the most cautious and careful inquirers) I have thought it right to adopt a medium course as to treatment: as, for example, to apply a blister to the neck, to keep the bowels freely acted upon, while at the same time I have allowed a generous diet. By minute inquiry, after such a course for a few days, the case will become more developed in its characters, and the medical adviser will be enabled to adopt a plan of treatment of more decision and also of more effect.

EFFECTS OF CHLOROFORM AND STRONG CHLORIC ETHER

AS NARCOTIC AGENTS.

By John C. Warren, M.D.

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A short time since, I received a letter from a distinguished person in Canada, in which my opinion was requested as to the state of the ether practice, and the use of chloroform. This communication led me to see the propriety of publishing some observations and results of a practical nature, which had occasionally presented themselves in the course of my reading and experience. A natural reluctance to take up a subject which, however important, has already been so hackneyed, had prevented me from executing the design, until I was repeatedly inquired of as to the actual condition of the ether-practice. The very unfavourable influence exerted on this practice also, by the fatal cases of chloroform, seemed to add to the necessity of a careful consideration of the phenomena with which they were attended. At length I received, among others, the letter already alluded to, from which the following passage is extracted:—

"The use of chloroform had been just announced as your book was going to press, and you reserved your opinion on its merits till you could speak from experience. In the interim, it does not seem to me that, in this vicinity, the medical profession are availing themselves generally, and with confidence, of the aid of the one agent or the other, which I am at a loss to account for, and I am surprised that more has not been said of this wonderful discovery than appears to have been within the last six months. * * * I have a curiosity to know whether, as you have become more familiar with the use of ether and chloroform, your confidence in it has been confirmed or shaken. Judging from the clear and succinct summing up at the end of your treatise, which all readers can understand, I should expect to hear that, unless something has occurred to change your views very materially, you would scarcely think of leaving a patient to endure the pain of a severe operation without giving him at least the choice of such relief as you describe. And yet I am not sure that this is now the general practice with you,—it certainly is not with us."

In the Remarks on Etherization which I published about a year since, it was said that another year was necessary to give us the means of judging fully and definitively on the merits of the ether-practice. Before that publication was fairly out of the press, a new agent was discovered, which was destined to effect a great change in the use of ether.

The introduction of chloroform produced an excitement scarcely less than that of the discovery of the narcotic effect of ether. The beauty of the article, and the rapidity of its influence, gave it an immediate and general currency; for not only was it employed by physicians, but the community took the narcotizing drug into their own hands, and from the highest to the lowest indulged themselves in the chloroform excitement. This substance, as proposed and promised in the remarks I had occasion to make on the subject of etherization, was taken up by me, and fairly tried in a great number of instances, and among the first on my own person; thus giving it a thorough trial in every way. In the cases under our direction it was used with all the precautions possible. The quantity of chloroform was limited, and an inhaling apparatus commonly employed, varying in form according to the ingenuity of the contriver. The apparatus more particularly resorted to was arranged to accomplish inhalation by the nostrils, a sponge or rag being so placed in the box as to permit the mixture of air with the narcotic vapour.

We were soon awakened from our dreams of the delightful influence of the new agent, by the occurrence of unfortunate and painful consequences, which had not followed in this country on the practice of etherization. The profession were led to hesitate, many of them to suspend the use of chloroform, to watch its effects with a jealous eye, and finally, when the lapse of time produced new cases of fatality in pretty regular succession, some were induced to relinquish it entirely, and employ the safer and less violent substances, the sulphuric and chloric ethers.

The loss of a single life from an application used for the purpose of preventing pain, must make a strong impression on the mind of any conscientious physician or surgeon; and when this occurrence presents itself repeatedly within a short space of time,—affording, as it must do, reason to apprehend the same result in cases otherwise the most favourable,—it becomes the duty of a professional man, either to relinquish the practice, or to find out some way of rendering it safe. Now it appears that no less than *ten* well-authenticated fatal cases have presented themselves to the public eye within little more than a year. When we consider that there are other cases not well ascertained, and probably others which have never become public, we are called on to investigate these fatal occurrences with the greatest care, and to discover, if possible, why these patients died, while others have escaped, and whether there are any means of avoiding similar results in the future practice.

Some writers have thought that the fatal effects in these cases did not arise from chloroform, but might be explained by other causes. In those instances in which the fatal result has followed the use of this agent with scarcely a longer intervention than death from a wound in the heart follows the stroke of the knife, chloroform has by learned and experienced surgeons been pronounced to be absolutely guiltless of the mortal consequence, and the death has been attributed to fainting or syncope; to apprehension or fear; to bleeding at the lungs; to diseased heart and enlarged liver; to asphyxia; and finally, the well-known fact, which we ourselves have formerly cited, that deaths sometimes take place from a violent constitutional impression, has been quoted as the cause. In regard to this last, if such were the true explanation, the crowding of so many cases of rare occurrence into the compass of a few months must form an epoch in the history of this constitutional sympathy.

In order to present the phenomena of the fatal cases produced by the administration of chloroform, we shall bring them together in such way that they may be readily compared: but before doing this, some may be mentioned as precursors of the formidable train of results which were to follow.

The cases which first gave me uneasiness as to the effect of chloroform were, among others, the following:—

A lady, Mrs. H., about 45 years old, in good health, of rather a delicate temperament, had a tooth extracted, under the use of ether, in 1847, with favourable effects. In the early part of 1848, having occasion to undergo the same operation again, she applied to the same dentist, a gentleman well practised in the use of ether. Instead of this article he thought best to employ chloroform, which was given her on a handkerchief to the amount of about thirty drops. After five or six inspirations she had a partial convulsion, was deadly pale, and faint. Being laid on the sofa she recovered in a degree; in ten or fifteen minutes became very sick at the stomach, and continued so all that day. On the day following, the sickness still remained; she had severe headache, loss of appetite, with nervous twitchings of the muscles. At the end of five days she was able to walk out, and came to consult me. Her symptoms at this time were, an uneasy sensation in the stomach, stricture across the chest, loss of appetite, headache, and great prostration of strength. The last symptom continued to the month of December, when she came into town again for the purpose of consulting me once more.

Not long after the occurrence of this case, we received, by the LONDON MEDICAL GAZETTE for December 1847, an account of an instance of asphyxia and convulsions under the influence of chloroform, in Halesworth, England. The writer, Mr. Beales, represents his patient as a young lady 27 years old, who had laboured under neuralgia for three years, and from whom he extracted an upper molar tooth on the left side. A drachm was at first used, but finding slight effect, from twenty to thirty drops more were poured upon the sponge, which in two or three seconds produced rigidity of the extremities, slight convulsions of the abdominal muscles, extreme dilatation of the pupils, succeeded by the most alarming state of asphyxia, lasting for at least a minute. When reaction came on, she fell apparently into a calm sleep, during which the attempt was made to extract the tooth: but before the instrument could be removed, the jaws became so firmly fixed as to hold it for two or three minutes; while the arms, legs, and whole body, underwent the most distorted convulsions. At length the instrument and tooth were removed: the convulsions continuing for five or six minutes longer, though with less violence. She then became half-conscious, muttering "more, more, or I cannot have my tooth out." To this state, which continued half an hour, succeeded a most excruciating pain at the top of the head, lasting twenty minutes, and it was not till the expiration of an hour and a half that she was enabled to return home.

Within a month from this date there appeared in the public newspapers an account of a case of convulsions lasting sixteen hours, at New Bedford, Massachusetts, in an apothecary, who undertook to divert his friends by an exhibition of the effects of chloroform. There also occurred in Baltimore, a case of asphyxia, from the same cause, continuing an hour and a half, and by which the unfortunate medical student nearly loss his life. In New York, about the same time, a lady, after having a tooth extracted under chloroform, lay fainting for several hours: the recovery of her mental faculties was attended with prostration, paralysis of the tongue, and loss of voice. To these many similar instances might be added.

But these occurrences were of trifling importance compared with others which followed. A number of individuals, in the full vigour of youth and health, were struck dead under the very hands of the surgeon raised for their relief; and in one or two instances the proposed operation was unknowingly performed on a lifeless body.

The causes of death from chloroform have naturally attracted the careful attention of physiologists and physicians. They have been anxious to discover why this article has produced many more dangerous effects than ether, and what organ was attacked with so great violence as to interrupt suddenly its functions, and consecutively the other functions of animal and organic life.

Very careful and minute investigations and discussions, intended to answer these questions, have been undertaken by learned physiologists and pathologists in various countries. My intention is not to follow in the search so ably pursued elsewhere by others, but to endeavour to throw some light on these critical inquiries, by bringing together, in a comparative view, the most remarkable phenomena these fatal cases have presented, in order to ascertain whether they agree in any one or more circumstances which may offer a clue to the peculiar effects of chloroform, and the means of obviating them. To attain this object, it was necessary to place in one view the most remarkable phenomena in each case, and then to compare them by constructing a table.

Case I.

Name.—Hannah Greener.

Date.—January 25th, 1848.

Disease.—Onychia.

Previous use.—Sulphuric ether, two months previous.

Time of inhalation.—About half a minute.

Quantity consumed.—About a drachm.

Posture.—Sitting.

Lapse of time till death.—Two minutes.

Symptoms.—In half a minute, no change of breathing, or alteration of pulse; arm rigid; insensibility; after semi-lunar incision a twitch; sudden blanching of lips; spluttering at the mouth; not the slightest attempt at a rally; death.

Morbid appearances.—*Brain*, external and internal congestion more than usual; rather more than usual quantity of serum in ventricles.

Heart healthy: dark fluid in both cavities; less in left.

Lungs not collapsed; one or two slight adhesions; external surface of both highly congested; mottled with deep purple, blueish, or scarlet patches; crepitant; small emphysematous bubbles along outer and interior border of both; more on upper lobe of left; bloody froth in tissue and in bronchi; epiglottis reddened, also mucous membrane of larynx, and mottled; dark mucus in the sinuses.

Liver, kidneys, and spleen, congested. Digestive organs healthy.

Some veins more distinct than usual.

Rigidity as usual.

Cause of death assigned by Jury.—Congestion of the lungs, produced by chloroform.

Case II.

Name.—Arthur Walker.

Date.—Feb. 5th, 1848.

Disease.—None.

Previous use.—Frequent.

Time of inhalation.—Unknown.

Quantity consumed.—About half an ounce.

Lapse of time till death.—Uncertain.

Posture—Leaning forward.

Symptoms.—Not known.

Morbid appearances.—*Brain:* veins on the upper surface full, not turgid; pia mater injected; puncta vasculosa larger than usual; velum interpositum and choroid plexus much loaded with dark-coloured blood.

Lungs turgid; loaded with dark-coloured blood, particularly at the upper margin of the lowest lobe of right lung; lower lobe of left, and smaller portion of upper lobe of right, engorged, of apoplectic character, emphysematous.

Heart.—Old adhesions of pericardium; right side distended with thin and dark fluid blood; walls of right ventricle unusually thin; cavity enlarged.

Blood.—General mass darker than usual.

Cause of death assigned by Jury.—Asphyxia, consequent on the inhalation of chloroform.

Case III.

Name.—Mrs. Martha G. Simmons.

Date.—Feb. 23d, 1848.

Disease.—Extraction of the stumps of teeth.

Previous use.—None.

Time of inhalation.—About a minute.

Quantity consumed.—Unknown.

Posture.—Sitting.

Lapse of time till death.—Estimated by two witnesses at about two minutes; by the dentists, from five to ten.

Symptoms.—Face pale during inhalation; groans during extraction, but no other sign of consciousness. In two minutes from beginning of inhalation, head turned to one side; arm slightly rigid; body drawn backwards; pulse feeble, and instantly stopped; so with respiration; face, previously pale, now livid; lower jaw dropped; tongue projected at one corner of the mouth; arms perfectly relaxed.

Morbid appearances.—*Brain:* integuments contained but little blood; more than usual in vessels of dura mater; superficial vessels moderately distended: from sinuses of dura mater, two or three ounces of fluid blood mixed with bubbles of air: aspect, character, and colour, normal.

Heart flaccid; cavities empty; inner surface of all deeply stained; six drachms of bloody serum in pericardium; aorta and pulmonary artery empty; cava empty in chest; containing very little in abdomen; lining membrane of all blood-vessels deeply stained.

Lungs.—Considerable congestion; crepitant; no extravasation; congestion of lining membrane of bronchi, deeply stained; great injection of pleura; six ounces of bloody serum in right, two ounces in left.

Liver pale; kidneys engorged.

Blood everywhere fluid as water; no coagulum in any vessel; examined by the microscope, some alteration in the form of globules, some irregular; generally seem more distended and globular than normal, also somewhat fragmentary; number somewhat diminished; colour dark venous.

Case IV.

Name.—Patrick Coyle.

Date.—March, 1848.

Disease.—Fistula.

Previous use.—Once.

Time of inhalation.—About one minute.

Quantity consumed.—About thirty drops.

Posture.—Upon the side.

Lapse of time till death.—About one minute.

Symptoms.—Showed signs of pain, by putting his hand to the part; in a moment his pulse, which was full and natural, sank; death.

Morbid appearances.—Brain, with membranes, natural and healthy.

Heart enlarged, pale, and soft; two or three ounces of serum in pericardium; blood-vessels with dark fluid blood.

Lungs, studded with tubercles; abscess in each; lower parts congested; pleura extensively adherent.

Stomach.—Mucous membrane softened; its veins turgid.

Cause of death assigned.—Disease of the lungs.

CASE V.

Name.—Mlle. Stock.

Date.—June, 1848.

Disease.—Opening an abscess in hip.

Previous use.—None.

Time of inhalation.—Less than one minute.

Quantity consumed.—From fifteen to twenty drops.

Posture.—Sitting.

Lapse of time till death.—Very brief.

Symptoms.—After several inspirations tried to withdraw, half crying "I choke!" face suddenly pale; countenance changed; breathing embarrassed; foam at the mouth.

Morbid appearances.—Brain: superior longitudinal sinus empty; veins on convex surface not engorged, but the column of blood broken at intervals with bubbles of gas; also air in veins at the base of the skull, also escaped with blood from the ophthalmic veins, cavernous sinuses, and inferior cerebral veins; serum in lateral ventricles moderate; substance firm.

Heart. — Serum in pleura and pericardium; heart excessively flaccid; right and left cavities empty; not the smallest clot; frothy blood in the orifice of the ascending cava; a little blood mixed with air from pulmonary veins; internal membrane of heart red, especially of right cavities; tissue pale.

Lungs, especially left, voluminous, visibly engorged in lower lobes; on incision, a very black fluid blood; remarkable crepitation; pulmonary vesicles dilated with air, probably from the artificial respiration; neither interlobular nor subpleural emphysema; tracheal mucous membrane bright red; no froth in bronchi.

Liver very large; air-bubbles, with much black and fluid blood, escape on incision. Intestines distended with fœtid gas; *spleen* softened and gorged with blood; bubbles of air escape on pressure.

Blood as black as ink; air bubbles up from a remarkably black and very fluid blood from internal saphæna and left crural; blood-vessels near the wound found to be perfectly entire.

Cause of death assigned.—Syncope, caused by sudden suspension of the cerebral functions under chloroform.

CASE VI.

Name.—Daniel Schlyg.

Date.—June 25th, 1848.

Disease.—Disarticulation of thigh.

Previous use.—None.

Time of inhalation.—Four or five minutes.

Quantity consumed.—Not stated.

Posture.—Recumbent.

Lapse of time till death.—Three-quarters of an hour.

Symptoms. — Face very pale; lips discoloured; pupils dilated; eyeballs rolled upwards; respiration infrequent and sighing; pulse no longer perceptible; limbs perfectly relaxed.

Morbid appearances. — No autopsy was made.

Cause of death assigned by the surgeon, Mr. Robert.—Syncope.

CASE VII.

Name.—Walter S. Badger.

Date.—June 30th, 1848.

Disease.—Operation on teeth.

Previous use.—None.

Time of inhalation.—One minute.

Quantity consumed.—A drachm and a half.

Posture.—Sitting.

Lapse of time till death. — One minute.

Symptoms. — Face livid; pupils dilated; temperature of the body lower han natural.

Morbid appearances.—Brain: nothing abnormal; slight congestion of corpora striata and optic thalami; membranes congested.

Chest.—Lungs and heart pushed up as far as the third and fourth ribs; lungs healthy, crepitant throughout; some adhesions; on the right little congestion.

Heart pale and flaccid; not hypertrophied or dilated; some adipose spots on the surface; walls of the left ventricle thinner than usual; fatty degeneration of tissue, especially at the apex; clots of dark grumous blood in both ventricles; inner surface of aorta rough; mitral valves unequal at their edges; tissue hard, grating.

Abdomen.—Omentum fatty; stomach not distended; liver very large, reaching up to the third and fourth ribs, pale, brownish, and dirty white; weight eight pounds.

Cause of death assigned by jury.—Obstruction to the heart's action from an enlarged liver, and the influence of chloroform thereupon.

CASE VIII.

Name.—A young woman of Hyderabad.

Date.—July 11th, 1848.

Disease.—Amputation of middle joint of middle finger of left hand.

Previous use.—None.

Time of inhalation.—Very brief.

Quantity consumed.—A drachm.

Posture.—Sitting.

Lapse of time till death.—Instantaneous.

Symptoms.—Slight cough, with a few brief convulsive movements.

Morbid appearances.—No autopsy was made.

CASE IX.

Name.—John Griffith.

Date.—January 19th, 1849.

Disease. — Chancres and hæmorrhoids.

Previous use.—Chloroform on Dec. 26th, 1848.

Time of inhalation.—None given.

Quantity consumed. — About three drachms.

Posture.—Lying on one side.

Lapse of time till death.—About ten minutes.

Symptoms.—Face and neck of a livid, leaden hue; the eyes turned upward; the pulse imperceptible at the wrist; respiration laborious; the whole body relapsed; after two or three gasps he ceased to breathe.

Morbid appearances.—*Brain* healthy; no other appearances than in persons dying when in full health.

Heart large; its ventricles and auricles empty; its condition flabby; the substance of the left ventricle rather softer than natural.

Lungs.—A good deal congested, and discharged when cut a large quantity of bloody serum.

About half an ounce of a watery fluid was found in the pericardium.

CASE X.

Name.—Abby Pennock.

Date.—March 6th, 1849.

Disease.—Toothache.

Previous use.—Frequent.

Time of inhalation.—Unknown.

Quantity consumed.—Three drachms in two applications.

Posture.—Recumbent.

Lapse of time till death.—Probably instantaneous.

Symptoms.—Unknown.

Morbid appearances. — *Externally*; the body livid over the whole left side; face and neck swelled; pupils slightly dilated; thyroid gland enlarged.

Brain.—Free from congestion or any other morbid aspect.

Heart.—Flaccid, empty of blood, only a very small coagulum in its cavity.

Lungs.—Not much collapsed; both congested, the left throughout, the right of a bright vermilion colour; entrance to the larynx inflamed, and covered with small ulcerations.

Abdomen. — Semi-digested food in stomach; lacteals full of chyle; intestines in a remarkably decomposing condition; *liver* not altered; *spleen* congested; *left kidney* congested; *uterus* with catamenia.

By the above we learn the

Time of inhalation to have been about a minute in 3; less than a minute, 3; four or five minutes, 1; uncertain, 3.

Quantity.—Half a drachm and under, 2; a drachm, but less than two, 3; between two and three, 1; uncertain, 4.

Posture.—Sitting, 5; leaning forwards, 1; Recumbent, 4.

Lapse till death.—Within one minute, 4; within two minutes, 2; in ten minutes, 1; in three-quarters of an hour, 1; uncertain, 2.

Morbid appearances.—Not given, 2.

Brain.—Congestion moderate, 4; none, 4.

Heart.—Healthy, 1; enlarged and soft, 2; disordered, 1; excessively flaccid, 2; flaccid, 1; flaccid, compressed by liver, 1. Mostly free of blood in all.

Lungs.—Congestion great, 4; considerable, 3; little, 1.

Blood.—In each instance black and fluid; dark and fluid, 2; darker than usual, 1; dark venous, fluid as water, 1; black as ink, 1; not stated, 2.

Air in the veins.—Mentioned in 2.

Mode of inhalation.—From an apparatus, 2; sponge, 1; towel, 3; handkerchief, 4.

It has been stated that the greater part of the victims of chloroform were females. An examination of the cases recorded shows that the numbers are exactly equal,—five males and five females. The questionable cases hereafter cited are two males and one female.

[To be continued.]

ON A NEW AMALGAM FOR THE TEETH.

SIR,—I shall be obliged if you will allow me, through the medium of your journal, to make known to my professional brethren the composition of an amalgam invented by myself some years ago, which I have used with much success for a length of time, in some peculiar cases. I have also experimented with it extensively in filling carious teeth. It is composed of chemically pure tin, prepared with much care, to insure its being free from any other metallic substance, and combined with prepared cadmium, in small quantities, and mercury. In using it so much mercury should be employed as may be required to make it more or less plastic.

The cavity of the tooth being previously thoroughly freed from carious matter, can be carefully filled with the paste thus formed. In the course of a few minutes it hardens into a solid, and gradually acquires a still firmer consistence and toughness, exhibiting a whitish colour, or, if cut or burnished, a metallic lustre, like that of pure tin.

The advantages of this composition are, I believe, such as are possessed by no other amalgam. It retains its colour perfectly, neither oxidizing on the external surface, nor on that applied to the cavity, and, of course, it does not discolour the tooth itself. It fills each crevice of the cavity, and, by effectually excluding moisture and all kinds of deleterious matters, prevents the recurrence of caries, and becomes sufficiently hard to withstand the friction of mastication. To these most important advantages may be added others—*e. g.* it is easily and quickly prepared, without the trouble of heating it, as is the case with some of the amalgams hitherto used. It is readily applied to the cavity of the teeth, and without the disagreeable creaking sound which attends the employment of other preparations. It will not amalgamate with, or injure any gold clasps or plate bearing artificial teeth, which may be placed in contact with it; and, in case of its removal being necessary, it can be cut out as easily as a gold filling, as it forms a tough, almost ductile substance, and not a hard, brittle one, like the ordinary amalgams.

I have submitted it to the inspection and trial of some of the best dentists here and in London. As far as their opportunities of investigating it have hitherto extended, I think they fully agree with me as to its advantages. It is, I believe, the best filling hitherto used, in those cases where amalgams are thought to be useful; and some of my friends are willing to award it higher praise even than this.

Believing it, therefore, to be a useful discovery, I wish to place it in the hands of the profession, and make this communication to you, at the same time that I publish a similar one in France, and in my native country, America, in which country I first used it.

I am, sir, your obedient servant,
THOMAS W. EVANS, Dentist.

15, Rue de la Paix, Paris, April 1849.

P.S.—Having been urged by many distinguished members of the profession to have it manufactured under my immediate superintendence, to secure accuracy, as much care is required in its preparation, that it may be fully tested, I have made arrangements so to do.—T. W. E.

EFFECT OF ELECTRICITY IN PRODUCING DISEASE.

How fertile a field of inquiry is probably open from our gradually increasing knowledge of the varying conditions of the electric power in relation to its atmospheric influence on the whole of the animal and vegetable economy, and therefore, probably, in the production of disease, especially those of a formidable epidemic kind, whether this electric power be traced in its regular diurnal variation, or in the awful explosion of the thunder cloud, or in the silent magnetic storm, unnoticed save in the observatory, and yet affecting a large portion of the globe,—even the mere form, not of the mountains, but of the lesser works of man, disturbing the electric relations on the earth's surface,—if Professor Schönbein is correct in his detection, by means of iodide of potassium, of the continual emanation of ozone from pointed bodies into the atmosphere. — *Hawkins' Hunterian Oration*, 1849.

MEDICAL GAZETTE.

FRIDAY, APRIL 20, 1849.

The medical event of the week, is undoubtedly the trial of Mr. Drouet, the proprietor of the Infant Pauper Establishment at Tooting. It has ended, as we believe most persons acquainted with the facts, had anticipated — namely, in the acquittal of the defendant. Whatever opinion may be entertained of the child-farming system in general, or of the neglect of the defendant in supplying proper food and clothing for the children entrusted to his care, it is impossible not to concur in the propriety of the verdict. The deceased child died from Asiatic cholera; and the verdict of the jury was in substance that the defendant had not caused its death. For any thing that appeared to the contrary, the child might have been attacked by, and died from, cholera, even had it been better fed, clothed, and lodged, than it was stated to have been while in the Tooting establishment. The proof of the connection between the deficient supply of food and clothing, as well as the crowded condition of the bedrooms of Surrey Hall, and the attack of cholera under which the deceased sank, was not made out; and, in the absence of this, it would have been contrary to the principles of justice to have made Mr. Drouet responsible for the fatal result. The decision of the Court in this case has a very important bearing upon the responsibility of the medical officers and governors of gaols, and pauper establishments invaded by the cholera. The food given to the inmates is often of a poor and watery kind,—the cells may be damp, —the dormitories and wards are too often crowded and ill-ventilated; and, in the event of the cholera appearing, it is well known that it spreads through such establishments with great rapidity and fatality. Had a verdict of guilty been returned against Mr. Drouet on this occasion, the keepers of gaols and pauper infirmaries, or those under whom they act, might have been indicted for creating a predisposition to an attack of cholera, and have been made responsible for the fatal results. The evidence respecting the quality and quantity of the food was very conflicting; but admitting it to have been as bad as it was described to be by some of the witnesses, so far as we can ascertain, the same diet had been provided for other children, who had been entrusted to the defendant's care at former periods, and had not produced cholera. Hence, to have assigned the attack of this fatal disease to the food and crowding, in this particular instance, and to have made the defendant criminally responsible, would have been most unjust. Had not this country been at the time unfortunately visited by the Asiatic cholera, which our Government had allowed to be imported, and, by the abolition of quarantine, to become diffused over the country wherever it could find a nidus, the deceased, and the other children who died, notwithstanding the quality of the food, clothing, and lodging, would have probably now been living. Could any of the medical witnesses have conscientiously declared that Mr. Drouet's treatment of this child was such as to lead necessarily to its death, by causing an attack of Asiatic cholera irrespective of any such visitation? If so, their declarations might have been proved to be contrary to facts; for the Tooting Asylum is not the only establishment, nor is the close of 1848 to be regarded as the only period at which pauper children have been insufficiently fed and clothed, and badly lodged; and yet Asiatic cholera has not been produced. To have convicted the defendant of the charge of manslaughter under the circumstances brought forward at the trial, it should have been proved that he was the cause of the importation or local production of that mysterious disease, and not, as our contemporary the *Times* wittily suggests, its "visible incarnation." Sir F. Thesiger, according to the same authority, has only been successful in showing that Mr. Drouet is not the impersonation of Asiatic cholera itself: we think, however, the learned counsel has gone much further, and proved, to the great relief of the authorities connected with the Penitentiary at Milbank, the Wakefield gaol, and other places where cholera has broken out, that they cannot be made responsible for a visitation of this kind. If the rooms were overcrowded, and the children badly provided with food, the guardians of the poor who entrusted them to the defendant's care were just as much responsible as himself, and should have been included in the indictment. They cannot discharge themselves of the duty of seeing that the children for whom they are bound to provide are fed, clothed, and lodged in a proper manner. If these conditions be neglected, they are bound either to enforce their four-and-sixpenny agreements, or to remove the children, and provide better accommodation for them elsewhere. It was only the outbreak of the Asiatic cholera, (for which we contend Mr. Drouet can no more be made responsible than the managers of the Milbank Penitentiary or of the Salpêtrière Infirmary, in Paris, for the occurrence of the disease in their respective establishments), which brought to light this bad system of farming out pauper children, and leaving it to others to make a profit by overcrowding them in dormitories, and supplying them with insufficient or improper food. The trial will, therefore, be attended with this good result,—it will make the guardians of the poor more vigilant, and the parties to whom the pauper children are entrusted more careful.*

We had contemplated giving an abstract of the trial, but the facts must be quite familiar to our readers.† The medical evidence is, however, of great interest, and we have therefore transferred this part of the case to our pages.‡ It is very rare that a man is indicted for causing the death of another by creating a predisposition to a disease, or by rendering him less able to resist its attacks; and the difficulty of proving these allegations by medical evidence must be apparent. Mr. Whitfield considered that the children had not had sufficient food, and this would no doubt render them more liable to the attacks of such a disease as cholera. The witness at the same time admitted that cholera is not generated by insufficiency of food: his evidence, therefore, did not implicate the prisoner. Dr. Garrod proved that the deceased had died of cholera, and from the post-mortem inspection he inferred that the child was not healthy: but he declined referring this unhealthy condition of the body of the deceased to overcrowding, bad ventilation, and insufficient food and clothing. He did not believe that bad air, bad food, and bad clothing, would produce the cholera unless it existed in the same neighbourhood. In Mr. Grainger's opinion, the cause of the mischief was the *overcrowding* of the children: he believed that this had occasioned the disease. Dr. A. Farr, who only saw the children a fortnight after their removal from Tooting, considered from their appearance that they had subsisted upon too much fluid diet, and too little solid food: their condition rendered them susceptible of receiving such a disorder as cholera, typhus fever, or any other disease of similar character.

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* We have above referred to the Salpêtrière, in Paris, where, we believe, the overcrowding of the inmates, chiefly consisting of the aged and sick poor, to have been as great as a Surrey Hall. In less than a month, *i. e.* to April 9th, there were in this establishment 556 cases and 296 deaths from cholera, a mortality much greater in proportion than that observed in the Tooting asylum. Persons desirous of strictly investigating this matter would no doubt find a sufficient explanation of this disproportionate number of attacks and mortality in the overcrowding, bad ventilation, and improper quality or insufficient quantity of the food supplied to the inmates. But would it be just to make the managers of this establishment criminally responsible for the fatal invasion of this disease? If, however, it be alleged that these patients were neither badly fed, clothed, or lodged, then it follows, that in an establishment of this kind there may be a very sudden and wide-spread mortality from cholera, irrespective of the quantity and quality of the food, lodging, &c. supplied to the inmates,—an admission which would render it exceedingly difficult to justify the medical opinion that these, and these causes alone, had operated to produce it at Tooting. Without a strong, distinct, and unambiguous medical opinion upon the actual production of cholera as the immediate result of such overcrowding and improper diet, and that the disease was thereby alone rendered fatal, it would be impossible to return a verdict of manslaughter against the parties to whose care the inmates had been entrusted.

† Some remarks on the Tooting cases will be found in the present volume, at pages 50 and 114.

‡ See page 696.

Such is the summary of the medical evidence in support of the indictment against the prisoner, which alleged that, contrary to his duty, he "had neglected to give the child proper food and sustenance, and had also neglected to provide it with wholesome and properly ventilated sleeping accommodation, and by these means had caused it to be mortally sick and distempered, and so occasioned its death."

It will be perceived that Dr. Garrod's evidence completely exculpated the defendant of the charge; for the disease which caused death, was not producible by the causes assigned in the indictment to the prisoner's act. Dr. Garrod's opinion is strictly in accordance with facts. Had bad air, food, clothing, or ventilation, been direct excitants of this dreadful malady, we need not have waited until the close of the year 1848 for its outbreak in this country. It would always be among us, and raging as severely as it did in the Tooting Asylum. If these were not the direct excitants of the disease, then the charge against the defendant fell to the ground; for how is it possible to prove by medical evidence the creation of a predisposition to a malady which attacks and destroys old and young, rich and poor, the healthy and the diseased, and which is as fatal to life in the tropics, as it is in the northern provinces of the Russian empire?

The only evidence bearing against the prisoner was the statement of Mr. Grainger, that the overcrowding of the children had *caused* (occasioned) the disease. This statement, admitting his evidence to be truly reported, we consider to be medically indefensible. There is an entire want of proof that any degree of overcrowding will cause an attack of malignant cholera. When the seeds of the disease are in the neighbourhood, then it is true that this overcrowding, aided by bad diet, may render persons more susceptible of its attacks; but so little is known on the cause of cholera, that it cannot even be predicted that such persons will be necessarily attacked by the disease. The overcrowding is a secondary condition: it is not creative of the malady. The wards of the Salpêtrière, in Paris, have been overcrowded for a considerable period, but the cholera did not show itself in them before it had broken out in the city of Paris. If overcrowding be, as alleged, a cause of this disease, how has it happened that the cholera did not make its appearance in the Salpêtrière until after the 9th of March, when it had already caused several deaths in Paris? The deaths in this establishment, in spite of the removal and diffusion of a large number of the inmates, have been no fewer than 70 per cent. of those attacked—a fact which should at once suffice to put the managers of that institution upon their trial for manslaughter; for, by the tardy removal of the pauper patients, they have acknowledged themselves guilty of conduct which, on Mr. Grainger's theory, has led, in the Tooting establishment, to the actual *production* of cholera.

To convict a person of manslaughter or murder, it must be distinctly proved that the deceased came by his death, either directly or indirectly, through the act of the accused, and from no other cause whatever. Even if it were settled as a point of law, it would be most dangerous to allow juries to decide upon the creation or non-creation of a *predisposition* to a fatal disease. By what evidence could the production of such a predisposition be proved? On this point the learned judge declined giving a decision: the fact being that the death of the deceased was not traced to the act of the prisoner. Had this child been better fed, clothed, and lodged than it was proved to have been, it might have been attacked with cholera and died like some thousands of others of all ages who had been placed under much more favourable circumstances. The ground on which the jury were directed to acquit Mr. Drouet was, that there was a want of evidence to show the state of the child *before* the attack. As the learned judge remarked:—"How were the jury to say that the child would not equally have died of cholera if it had not been at Tooting at all? How were the jury to say that the treatment adopted by the defendant occasioned the death, when there was no evidence to show them that, independent of that treatment, the child possessed sufficient constitutional energy to have resisted the disease." If it could have been proved that the deceased had died from some cause immediately traceable to bad clothing, bad feeding, or overcrowding, the case would have been different; but it would be an outrage against common sense to find a man guilty of causing death, for rendering the deceased less able to resist an attack of Asiatic cholera, when experience shows that these conditions will not produce the disease, and that it may attack and destroy persons who are well fed, well clothed, and well housed. Such a verdict would make the question of criminality to rest upon pure speculation.

A CONTEMPORARY quotes from the catalogue of the Society of Arts recently published, the following announcement to members, under the head of "Competition."

"The Society will have observed that for three years past, a prize of twenty guineas has been offered for the best design for a silver cup, of which the design should be emblematical of *Justice*. The Council felt that in having to present a cup according to the will of the late *Dr. Swiney*, it was peculiarly within the province of the Society to provide that it should be an appropriate and fine work of art."

From this it appears that, although the Society denied competition for the prize itself, they invited it for the design and manufacture of the article to be presented, as they say, "according to the will" of the late Dr. Swiney! The more consistent plan would have been to have allowed some member of the Society in the silversmith line, to have undertaken the "job" on his own terms. It would have been only following out the precedent already set by this Society for the Encouragement of Jobbing, had the worker in silver been permitted to nominate three friends, members of the Society, to assign the job to himself. We would further suggest that any article, of which the design was not at least a quarter of a century old, should be deemed inadmissible. A modern design for an ancient prize-book would be quite inappropriate. The motto might be:—"*Quærenda pecuniæ primum. Honestas post nummos.*"

It is currently reported that the cup will be presented to the Swiney prizemen by H.R.H. Prince Albert, at the next anniversary meeting of the Society. It is not to be supposed that his Royal Highness is acquainted with the circumstances of this award; and it is to be hoped that some of the honest and independent members of the Society, who we know silently repudiate these proceedings, will have the courage to interfere and prevent his Royal Highness from lending the sanction of his illustrious name to a transaction which reflects disgrace upon the Society of Arts, and all who are connected with it.

In our last number we made some comments on an accident which had recently occurred, through the use of one of the numerous stoves which have been patented for the suffocation of the public. The maker of one of these stoves has attempted a sort of justification of their use, in a letter addressed to one of the daily journals. The substance of this defence is, that the stove which occasioned the accident was intended for the warming of a hall, and that it was entirely *unsuitable* for a bed-room. This appears very reasonable; but in concluding his letter, the writer states, that "the prepared fuel" sold by him, "can be clearly demonstrated to contain none of the deleterious qualities of common charcoal!" These statements appear irreconcileable. If the "prepared fuel" does not produce carbonic acid like common charcoal, what should render the stove unsuitable for a bed-room? It is owing to these ignorant and deceptive announcements that the stoves find a ready sale, and are the cause of such unfortunate accidents as that which we have exposed. If the puffing announcement means anything, it clearly implies that the stove-maker undertakes to warm a room by burning fuel without poisoning the air with carbonic acid! It would be a satisfactory way of testing these inventions, if the inventor were compelled to sleep one night in a closed room, heated by the "prepared fuel," burnt in one of his own stoves. The article would then have a very limited sale.

We lately called attention* to the foundation of a professorship in physic, under the will of Sir Thomas Gresham. We have now to announce to our readers that the Spring course of the Gresham professor, H. H. Southey, M.D. F.R.S., commenced *yesterday*, and will terminate *to-morrow!* An advertisement informs us that these lectures, which the worthy old founder intended for "the promotion of general instruction," will be read in the theatre of Gresham College, Basinghall Street, in Latin at twelve o'clock, and in English at one o'clock in the afternoon, on Thursday, April 19; Friday, April 20; and Saturday, April 21. We record these particulars in case some of our medical readers, living near the spot, may feel a desire to witness the marvellous process by which a course of Physic in the nineteenth century may be completed in *three* lectures. The Apothecaries' Society very absurdly demand a *hundred* lectures for a course; and the working professor who delivers them, may consider himself well paid if he clears two guineas per lecture. The Gresham course is the shortest and most lucrative in the United Kingdom. Taking the spring and autumnal courses of *three* lectures each, the professor clears only sixteen guineas per lecture! A theatre is provided for him, and his expenses are paid. This comfortable sinecure is in the gift of the Mercers' Company. We understand that the Professor is elected to the office by a species of *concours* peculiar to the Company.

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* Page 548.

Let any one, who may be disposed to found a testamentary lectureship attend a Gresham course, and then determine whether this money may not be better bestowed upon some public hospital or infirmary.

Reviews.

Elements of Chemistry, Theoretical and Practical; including the most Recent Discoveries. &c. Illustrated by 230 Wood-cuts. 2nd Edition. By Sir ROBERT KANE, M.D. M.R.I.A., President of the Queen's College, Cork, &c. 8vo. pp. 1069. Dublin: Hodges and Smith.

WE lose no time in announcing the publication of a second edition of this admirable treatisé on Chemistry. Although the well-known works of Brande, Turner, and Graham, are almost exclusively used as class-books in the English schools, yet the extent of the science of chemistry, its rapid progress, and the different aspect in which, during this transition state, it may be viewed by men who have spent years in its study, render an additional work, like that before us, acceptable to teacher and student.

Sir R. Kane's treatise has well deserved the popularity which it has acquired; and the demand for a second edition is a proof that its merits have been fully appreciated. To give a short analysis of the volume, we may state that about 330 pages are occupied with chemical philosophy, including crystallography, light, heat, electricity, chemical nomenclature,—affinity and the laws of combination. About a like number of pages are devoted to metallic and non-metallic substances, inorganic acids, bases and salts, and the remainder of the volume to that department of the science which is still known under the name of Organic Chemistry. In this branch of his subject, while the author has given us the most recent information, he has wisely adopted a synoptical plan in describing many groups of substances, the theories connected with the production and constitution of which are at present far from being satisfactorily established. The remarks on the theory of Compound Radicals, and on the limits of its application, are highly judicious, and indicative of a sound philosophical spirit in the author. Sir R. Kane prefers truth to brilliancy, and demonstrates that the science of chemistry can make no true advance, if, in working out details, we transgress the boundary of sound induction. In fact, we are thereby only heaping up rubbish for another generation to remove.

The author's style is clear, and his descriptions are concise and intelligible. For this reason his work is well adapted to the use of students. In the scale of equivalents, the numbers for each substance are given on the assumption that either oxygen or hydrogen is taken as unity. The symbols are those which are in common use, and *English* weights and an *English* thermometer are made the basis of his descriptions. The work is also provided with a full table of contents and a copious index.

We can safely recommend this edition to our readers, as containing an accurate account of the most recent improvements and discoveries in Chemistry.

Lectures on the Parts concerned in the Operations on the Eye, &c., delivered at the Royal Ophthalmic Hospital. By WILLIAM BOWMAN, F.R.S. &c. 8vo. pp. 143. London: Longmans. 1849.

THE substance of these Lectures has already appeared in the pages of this journal. We need therefore only call the attention of our readers to their republication in a separate form. We have reason to believe that the original lectures were well received by the profession, and we entertain no doubt that students of ophthalmic surgery will welcome their appearance in the volume before us. They are well calculated to add to the reputation of Mr. Bowman as an anatomist, physiologist, and ophthalmic surgeon.

Proceedings of Societies.

WESTMINSTER MEDICAL SOCIETY.

Saturday, March 31, 1849.

Mr. Hird, President.

Perforation of the Stomach.

Mr. Abram briefly detailed some particulars of a case of perforation of the stomach occurring in a young woman in tolerable good health, and not chlorotic, aged twenty-two. She had suffered from dyspepsia for some time. The attack was sudden, and fatal in about twelve hours. The stomach exhibited an ulcer, the opening being as if it had been "punched out."

Mr. H. Smith exhibited a preparation of part of the small intestines, in which there was a perforation. He brought it forward for the purpose of inquiring whether life could be sustained for fourteen days after such a lesion. In this case he thought the symptoms warranted him in deciding that such had been the case.

Death from Chloroform: means to be employed to prevent a fatal effect from an over-dose.

Dr. Snow read a paper on the fatal cases of inhalation of chloroform. He said, that soon after the inhalation of ether was introduced, it was reported to have caused death in two or three cases, but as the effects of ether became better known to the profession it became evident that these deaths, which occurred three or four days after severe operations, could not be attributed to the inhalation. Chloroform was much more powerful than ether; the quantity of it required to induce insensibility was less than one-tenth as much, by measure, as in the case of ether. Viewed in this manner, it was more than ten times as strong; but to ascertain their comparative physiological power when inhaled in a similar manner, their respective volatility requires to be taken into account. If a patient breathed air saturated with vapour of chloroform at 60°, twelve ordinary inspirations, of twenty-five cubic inches each, would suffice to produce the usual amount of insensibility required in a surgical operation; but it would require thirty-two similar inspirations of air saturated with vapour of ether, at the same temperature, to produce a like effect: therefore chloroform was nearly three times as strong as ether when inhaled in the same way; and this was one of the chief causes of the accidents which had happened. When an animal was allowed to continue breathing air charged with vapour of chloroform, after it had become completely insensible, the respiration shortly ceased; but if the air did not contain about more than five per cent. of the vapour, the heart continued to pulsate for some little time after the respiration had ceased, and the circulation was finally arrested for want of the respiration, as in all other cases when death took place by apnœa. During the interval that the heart continued to beat, the animals were easily resuscitated by artificial respiration. When, however, an animal was made to breathe air containing a greater quantity of vapour—ten per cent. or upwards—death took place in from half a minute to two minutes, and the respiration and circulation ceased about the same time: the reason of this was, that there was sufficient vapour in the lungs at the moment the breathing stopped to paralyze the heart as soon as it was absorbed and added to that already in the blood. Under these circumstances, it was evident that artificial respiration could be of no avail, and there was every reason to believe that this was the condition of the patients in the greater part of the fatal cases of inhalation of chloroform. To gain a clear idea of the cause of these accidents, it was necessary to consider the quantity of chloroform in the blood and in the lungs under different circumstances. Thirty-six minims was the average quantity required to be inhaled, to induce insensibility in the adult, but only about half of this was absorbed, the remainder being expired again. He had previously related some experiments undertaken to ascertain the exact proportion of chloroform in the blood in the different degrees of narcotism, by which it was shown that about twelve minims was the quantity in the second degree—the stage in which the mind wandered and voluntary motion was unsteady; about eighteen minims in the third degree—the usual stage in which operations were performed; about twenty-four minims in the fourth degree—the stage of complete insensibility with relaxation; a little more than thirty minims, the quantity that would be required to suspend respiration; and thirty-six or thirty-seven minims to arrest the action of the heart. The quantity of air usually present in the lungs was about 250 cubic inches. If a patient were breathing air saturated with chloroform at 60°, this quantity of air would contain thirty minims before it entered the lungs; but as absorption and inhalation went on together, probably only from fifteen to twenty minims would be present in the lungs at one time during ordinary respiration; and if the chloroform were removed from the patient's mouth, part of this would be expired again, and not more than ten to fifteen minims would be absorbed into the blood after the discontinuance of the inhalation; but this, if the patient were already insensible, might so increase the narcotism as to lead to a fatal result. The time during which the narcotism might continue to increase after the inhalation was discontinued, owing to the absorption of the vapour remaining in the lungs, was about twenty seconds, as he had stated on a former occasion. These considerations would make it evident, that unless some systematic means were taken for having the vapour largely diluted with air, so that its effects might be gradually induced in not less time than about two minutes,—and no great quantity of chloroform could ever be present in the lungs at one time,—fatal accidents would be liable to occur. Unfortunately, Dr. Simpson, to whom they were indebted for the introduction of chloroform, recommended it to be used on a handkerchief, and to this mistake must chiefly be attributed the fatal cases that had occurred; for the handkerchief, of course, did not afford any means of regulating the strength of the vapour. Dr. Snow then related the particulars of the fatal cases, which he believed were seven in number — that of Hannah Greener, near Newcastle; that of Mrs. Simmons, in Cincinnati, U.S., which he considered was the only one in which any form of apparatus had been employed, and in that case the dentists who administered the chloroform were not medical men. The remaining cases were a young woman at Hyderabad, a female patient at Boulogne, a young man at Govan, in Scotland, a boy seventeen years old, at Lyons, and a labouring man recently, in Westminster: he did not include the deaths of two persons from taking chloroform when no one was present, as he was considering only the medical employment of the agent; and he had not included the case of Mr. Badger, who, he considered, did not die from the effects of chloroform—first, because he scarcely inhaled any, the inhaler not having been applied to his face; and, secondly, because, according to the evidence of Mr. Robinson and his servant, there were no symptoms either of narcotism or distress, even for a single second, before his death; but his head and hand dropped, and he showed no signs of life afterwards. He considered that the case was one of syncope, through fear either of the operation or of the inhalation, concerning which he had been led to entertain apprehensions, and that the fatty degeneration of the heart under which he suffered rendered the syncope fatal. In nearly all the cases of death from chloroform, the insensibility had been induced within a minute, and in every case the dangerous symptoms set in very suddenly, proving that the vapour had been inhaled of great strength. In the five cases in which an examination was made after death, there was no particular congestion of the brain, the lungs were greatly congested in two cases, and more or less so in the other three. The cavities of the heart were quite empty in the American case, and in that at Boulogne; but in these instances strong inflation of the lungs had been practised for a considerable period after death, and Dr. Sibson had found that the heart became emptied after death, during experiments with artificial respiration in the human subject. In these two cases, air was found in the veins; in that at Boulogne, in the pulmonary as well as the systemic veins. The members of the Académie de Médecine of Paris were inclined to attribute death to this cause, supposing that air could not reach the veins by rupture of the lungs after the left ventricle had ceased to act; but if artificial respiration could empty the heart of blood, it could also press out the air which would reach the left cavities of the heart by minute ruptures of the air-cells and pulmonary veins, and the arteries possessed the power of expelling their contents into the veins after death, as was proved by their being nearly always found quite empty. The recent case in Westminster showed the uncertainty of the handkerchief in a striking manner, since half an ounce of chloroform was expended in the first instance, without producing insensibility, but little of it getting into the lungs; and then, two or three hours afterwards, the same gentlemen, with a similar quantity, not only induced insensibility, but unfortunately administered an over-dose. Whilst he did not wish to blame the persons in whose hands this case had happened, and who had high authority for their method of proceeding, he could not agree in the verdict, that chloroform caused death when it was properly administered. If the vapour were sufficiently diluted with air, and its effects carefully watched, he considered it quite incapable of causing death. At the conclusion of his paper, Dr. Snow performed two experiments on linnets, to show the different effects of vapour of chloroform, according to the quantity of air with which it was diluted. In the first experiment, twelve grains of chloroform were put into a covered glass jar, containing 100 cubic inches, when it was converted into vapour, of which it would form about nine cubic inches, displacing as much air; a bird was introduced: it was quickly affected, and was dead in half a minute. The same quantity of chloroform was then diffused in a similar manner, in a jar holding 600 cubic inches, and another linnet put in; it became gradually insensible, and was removed at the end of about three minutes, and recovered completely in two or three minutes. Dr. Snow said that the vapour required to be rather stronger than this to act as rapidly in larger animals; but that there was the same difference in its effects from a similar difference of strength.

Dr. SIBSON said that Dr. Snow had referred to his observations on the mode in which the heart was paralyzed: and on the effect of artificial respiration, by distension of the lungs in emptying the cavities of the heart. It was an ascertained fact, from the history of the cases of death from chloroform, that the heart ceased to beat in those cases at the same time that breathing ceased; and in the late fatal case at Lyons, respiration continued after the cessation of the heart's action. Now the experiments of Mr. Wakley and Dr. Snow had shown that in the lower animals the heart continued to pulsate from one to two minutes after respiration had discontinued. Whence this remarkable difference? Why is it that in man, under chloroform, the heart's action should usually cease before respiraiton, while in the lower animal respiration should usually cease before the heart's action? This question it was difficult, but, in a therapeutical point of view, important to answer. Opium, in poisonous doses, excited in the lower animals constant tetanic contractions; but it did not do so in man. This difference was clearly due to the superior control exercised by the brain, by the mind of man over the reflex or spinal actions, his brain having a higher development, a greater controlling power, than the brain of any lower animal. Could the sudden action of chloroform on the heart of man be accounted for, physiologically, in the same way? Influenced by sudden mental depression, a woman will fall into syncope, pallid, and pulseless, to the ground; the heart's action suddenly ceases under the sudden influence of the mind. A French writer has recently suggested that syncope, the sudden cessation of consciousness, may be the cause of the sudden cessation of the heart's action under chloroform. It appeared to the speaker that this view was supported by physiological anologies. Another mode in which the action of the heart might be destroyed was the production of paralysis of the heart by the immediate action of the chloroform on its fibres, the chloroform (as he had stated in a paper, from which Dr. Snow had quoted) being sent more rapidly, and in greater concentration, to the muscular fibres of the heart, than to any other part of the body, the lungs excepted. This view, which had much to recommend it, was in some measure opposed by the fact, that the heart's action continued after breathing had ceased in the lower animals. From the valuable observations of Dr. Snow, it appeared, however, that sometimes, even in the lower animals, the heart's action ceased with respiration. This, however, may be due to the *third* way in which the heart's action may be arrested by the action of chloroform. Dr. Whytt found that under the action of opium the heart ceased, the right cavities being excessively distended. On lessening the blood in the cavities, the heart resumed its action. Sir B. Brodie observed the same phenomena under the action of tobacco, and he kept up the renewed heart's action by artificial respiration. Drs. Reid, Cormack, and Lonsdale, have made similar observations in animals poisoned by creosote and prussic acid. In these cases the heart's action has not been arrested by paralysis of its muscular fibre, but by overwork; it has had more blood in it than it could send out, and more resistance to overcome, in the pulmonic capillaries (for there is resistance to the circulation in both pulmonic and systemic capillaries under the action of narcotics and of asphyxia) than it was capable of overcoming. As yet we had had no opportunity of deciding, by post-mortem examination, whether the death of the heart had been occasioned in either of the two last methods, as in all the cases artificial respiration, by inflation of the lungs, had been performed, and thus the blood had been expelled from the cavities of the heart. In all the cases, the heart's cavities were empty, or nearly so; and that this was due to the artificial inflation of the lungs, was proved by the speaker's experiments, referred to by Dr. Snow. In constructing diagrams of the position of the ribs and internal viscera, he first took a diagram before the inflation of the lungs, and then another after inflating the lungs to the full, and he always found, that unless the vena cava was tied, the heart was nearly emptied by the inflation: this was due to the pressure exerted by the expanded ribs on the distended lungs, which in their turn pressed upon the heart, and which was also compressed by the sternum and the diaphragm. Dr. Sibson considered that artificial respiration by inflation was inadmissible in these cases, for the reasons just stated; still less was M. Ray's plan admissible, by the alternate compression and relaxation of the chest and abdomen by a many-tailed bandage; as under the abdominal pressure the contents of the stomach would be pressed out through the cardiac orifice, ascend the œsophagus to the pharynx, and regurgitate into the larynx and trachea, the vocal cords being paralyzed. He had contrived a plan of performing artificial respiration, which had been suggested to him in a case of poisoning by opium, in which Dr. Gaskell had performed artificial respiration by placing plasters over the ribs, and, through their means, by drawing upon and expanding the walls of the chest from without, somewhat on the principle of the boy's leather sucker. The speaker had a leaden breast-plate made, with the handle;

this was covered with an adhesive substance, welted caoutchouc, and was thus made to adhere to the skin over the sternum; on drawing this forward the chest was somewhat expanded, while on pressing it back, some air was expelled from the lungs; and so, by alternate suction and pressure, an artificial respiration was kept up without inflating the lungs. The amount of air so taken into the lungs was inconsiderable, but probably enough for the purpose, should artificial respiration be required for persons under the extreme action of chloroform.

Mr. **Gream** would still contend that there was much uncertainty respecting the action of chloroform, and the deaths and casualties attending its administration proved this. Notwithstanding the experiments on animals, as Dr. Sibson had observed, the effects on the human subject were different. Dr. Snow had objected to the case of Mr. Badger being one of death from chloroform; but he would ask,—Would Mr. Badger, or the other persons objected to by Dr. Snow, have died without chloroform had been used? Mr. Gream proceeded to rectify some mistakes into which he considered Dr. Snow had fallen, with respect to the detail of some of the cases, and contended that the death in every case was due to ether or chloroform. He particularly alluded to the fact of Mr. Badger having been in good spirits immediately before his death: this was evidenced by his saying the chloroform was not strong enough, and requesting to be supplied with more. Now he (Mr. Gream) contended that Mr. Badger had then inhaled sufficient to kill him, but the effects of the medicine developed themselves suddenly, and showed the danger and uncertainty attending its administration. Mr. Gream then mentioned several cases of deaths from chloroform or ether, and death from either of these agents was the same in regard to the arguments adduced by Dr. Snow. Among these cases he mentioned an instance of the removal of some glandular swellings from the axilla of a woman who insisted upon inhaling chloroform. She died immediately. He related another case, lately reported in the Lancet, as having occurred at the Hôpital Beaujon, of death immediately after amputation of the thigh, in which chloroform was used. He related some other fatal cases: two, in which convulsions took place; one continuing twenty-four hours; the other, three hours;—in the case of a lady with twins, chloroform was administered with the last child; the woman died in half an hour;—a case of operation at Birkenhead; death in half an hour. He contended that harm was done by telling the profession and the public that no danger attended the use of chloroform. He was in favour of its use in operative surgery, in which it had been employed in thousands of cases, and in which, if it had destroyed two or three lives, it had saved hundreds; but he did protest against its use in cases of natural labour. It was wrong to give it to women who would not die without it. Mr. Gream then detailed a great number of cases in which its use had been attended with fatal or disastrous results, when given either to relieve the pain of labour, or for other purposes.

On the motion of Dr. **Murphy**, the debate was adjourned.

MEDICAL SOCIETY OF LONDON.

Monday, April 9th, 1849.

The discussion this evening was desultory. Some statements were made with respect to cod-liver oil in consumption.

Dr. **Bowie**, in nearly a thousand cases, has proved its efficacy in arresting consumption. Many cases had occurred in which patients suffering from small cavities in the lungs, had, under the use of that medicine, been so much relieved as to return to their employment, and to discontinue the use of medicine. It was in the early stages of the complaint that cod-liver oil exerted its most beneficial effects, but it seemed of service in all stages of the disease. In some instances, however, of cavities, he had seen it induce hæmoptysis. The dose in the hospital was at first generally a teaspoonful, and this was borne well. It was subsequently increased to three or four tablespoonfuls.

A case was related in which tincture of hyoscyamus, given for inflamed testicle, in half-drachm doses, and continued three times a day for four days, suddenly produced the premonitory symptoms of apoplexy.

BENEFITS OF VACCINATION.—SPREAD OF SMALL-POX IN ANGOULEME.

For some time past a very serious epidemic of small-pox has spread in the above commune. The municipal authorities sent Dr. Gigon to investigate the circumstances, and advise on the means of arresting the epidemic. The following facts have been ascertained:—The epidemic reigned for two or three months; fifty-two persons out of a population of four hundred were attacked; seven died, and thirty were still under treatment: *none of those who died had been vaccinated.* It is impossible to cite a more striking instance of the protective influence of vaccination. It is true that some who had been previously vaccinated were attacked by small-pox, but in all these cases the disease was mild, and left no traces.—*Gazette Médicale.*

X

Medical Trials and Inquests.

CENTRAL CRIMINAL COURT.

April 14, 1849.

Old Court. (Before Mr. Baron Platt and Mr. Justice Williams.)

TRIAL OF MR. DROUET.

(*Report of the Medical Evidence.*)

Mr. S. Whitfield said—I am the medical officer of the Holborn Union. I visited Mr. Drouet's establishment on the 4th of January, for the purpose of reporting on the state of the children generally. I went into the cholera ward, which consisted of several rooms, appropriated to cholera cases, and when I left I entered some suggestions in the visitors' book for Mr. Drouet to adopt, and recommended the use of warmer clothing, warmer rooms, and that the diet should be changed, and more meat given to the children. I afterwards examined the sleeping apartments.

Sir F. Thesiger took an objection that what occurred after the breaking out of the cholera was not evidence. The deceased boy was removed on the following day, he being supposed to be healthy and fit to be taken away.

The Court ruled that evidence should only be given as to the condition of the other sleeping apartments, and not with regard to the cholera wards.

Examination continued.—On the 5th of January I made another visit, and examined all the Holborn Union children, and, according to my judgment, 156 were in a condition to be removed, but many of these were then under the influence of cholera and would be attacked, but still I thought they were in a fit state to be removed. It was a very cold snowy night when the children were taken away. They were carried in a van covered at the top and with curtains at the sides. I attended upon the deceased child afterwards at the hospital until he died, which was about 11 o'clock in the morning of the 6th. About a week afterwards I saw the whole of the rooms.

Sir F. Thesiger objected that the evidence should be confined strictly to the room in which the deceased child actually slept.

Mr. Chambers contended that they were entitled to show that the building was overcrowded, and pestilential in consequence of that overcrowding.

The Court expressed an opinion that the general state of the whole building was not admissible, and that the evidence ought to be confined to the room in which the deceased child slept.

In answer to a question put by Sir F. Thesiger, Mr. Whitfield said that the establishment consisted of several separate buildings.

Sir F. Thesiger.—And one part of the building is a quarter of a mile from another.

Mr. Chambers.—There is no evidence of that.

Sir F. Thesiger.—But Mr. Whitfield will soon tell us. He then put the question, and Mr. Whitfield said that some of the buildings were several hundred yards apart from each other.

The examination of Mr. Whitfield was then continued. He said—I went into all the dining halls, but I was not told how many children were generally accommodated in them. I observed that the children who were brought from Tooting had swelled bellies, and their pulses were very weak. Many of them were also suffering from itch. The appearances I observed were an indication to me that the children *had not had sufficient food, and this would no doubt render them more liable to the attacks of such a disease as cholera.* The wasting is very sudden in cases of cholera. The child was not a bag of bones. That is an exaggeration.

By Sir F. Thesiger.—Workhouse children are not the best description of children to be found. They very frequently come in with the itch, and the workhouse is seldom free from that disorder. Emaciation is excessively rapid in cases of cholera. When the seeds of cholera are in the system, emaciation would not commence until the discharges. The deceased died of Asiatic cholera. I believe cholera is produced from atmospheric influence, and that it is decidedly infectious; and that an infected subject increases the poisonous state of the atmosphere. I do not believe that cholera is contagious.* In my opinion cholera is not generated by marsh miasma; nor is it generated by insufficiency of food. Cholera is generally very capricious in its attacks, and I have heard of cases where it has attacked one side of a ship and one side of a street, and spared the other; and there are instances where it has attacked healthy spots, and spared others in the same neighbourhood which were ill ventilated and unhealthy. I am aware that the cholera broke out with great virulence at Wandsworth, which is in the neighbourhood of Tooting. I think that cold is a great predisposing cause of cholera. I did not attend at the Holborn Union or at the Free Hospital when the children were brought back.

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* This opinion probably refers to *contact*, as in the communication of the itch. This distinction between contagion and infection is not now recognised. It would appear extraordinary if a man were, by adopting Mr. Whitfield's views, to contend that syphilis and scabies were contagious, but not infectious diseases, while scarlatina was diffused by infection and not by contagion!—Ed. Gaz.

By Mr. Chambers.—Insufficiency of food might predispose the system to be attacked by cholera. A change from warm to cold clothing suddenly would also have that effect.

By the Court.—I was precluded from seeing the children on the night they were brought to the hospital, as I was superseded by the medical gentleman belonging to it.

Baron Platt.—Surely you ought to have given some intimation to the medical gentleman that incipient cholera existed among the children.

Witness.—I took it for granted that they would be attended to.

Baron Platt.—Was not the removal of the children on a cold night likely to predispose them to be attacked by cholera?

Witness.—Yes, it was an evil, but it could not be remedied. From the state of the establishment it was indispensable to bring them up that night.

Mr. Gibson, another surgeon attached to the Holborn Union, deposed that he examined all the children in October, before they were sent to Tooting. He did not recollect the particular case of the deceased; but, generally, he was certain he passed none of the boys if they were unhealthy.

Mr. A. B. Garrod said—I am a doctor of medicine, and assistant-physician to the University College Hospital. I made a *post-mortem* examination of the deceased. The body, I believe, had been buried by mistake.

A difficulty here arose as to the identity of the body.

Mr. Pearson was called to prove that the body which was examined was that of the deceased. He, however, was unable to do so.

In answer to questions put by Sir F. Thesiger, he said that he was one of the guardians of St. Andrew's parish, and in that capacity he had examined the establishment, and in his opinion Mr. Drouet's conduct was characterised by kindness and humanity.

By the Court.—That was his character in the town of Tooting and the neighbourhood.

William Philby, the gravedigger of St. Andrew's parish, proved that he knew the deceased, and that he was in good health before he was sent to Tooting. He likewise stated that the body examined by Mr. Garrod was that of James Andrews.

Dr. Garrod was then recalled. He said,—In my judgment the deceased died of malignant cholera. The body of the child was very much emaciated, and the appearance of the teeth denoted that he was a child of infirm constitution, and that he had not arrived at proper maturity. There was a total absence of fat even on those parts where it was generally thickest. The lungs were slightly congested. There were also all the usual indications of the death having been occasioned by cholera. I am positive *that the death was occasioned by cholera*, and I also think that a considerable portion of the emaciation which the body exhibited might have been the result of the ravages of the disease. This would not have been the case under ordinary circumstances, but I am of opinion *this was not a healthy child*. I should not like to state positively that the child being kept in a crowded and ill-ventilated apartment, and being insufficiently fed and clothed, would have produced some of the appearances which were exhibited. It is my opinion that a child of weak constitution would be more likely from such treatment to be affected by such a disease as cholera.

By Sir F. Thesiger.—I believe that the cholera cannot be generated in England, but that it travels to us with the atmosphere. I also think *it may be communicated by infection*, but nothing positive is known upon the subject. It is rather a capricious disease, but generally selects prisons, workhouses, and other places where the diet is not very generous. In some cases it attacks healthy persons, and those who are strong as well as those who are weak.

By the Court.—*I do not believe that bad air, bad food, and bad clothing would produce the cholera*, unless it existed in the same neighbourhood.

Mr. W. Kite said,—I am a surgeon, and in the course of last year I was engaged by Mr. Drouet. I went there on the last day of October, 1848, and my duty was to attend to the sick. There were between 1,100 and 1,200 children in the establishment. I saw no surgical book at the time I entered the house, but I afterwards kept one of my own. Towards the end of December 200 more children were admitted from St. Pancras parish. Mr. Drouet never consulted me with regard to the number of children that could be properly accommodated, nor with regard to the ventilation, nor the overcrowding of the rooms, nor the clothing of the children. There was an infirmary belonging to the establishment at the time I entered it, and at my suggestion another sick ward was formed. Among the children who were in the infirmary several were affected with the itch, and they were in the same ward with the children suffering from other disorders.

Baron Platt.—Did you ever hear of the cholera being produced by the itch? (A laugh.)

Witness.—Never, my Lord.

Examination continued.—I found it very difficult to get rid of the itch. Mr. Drouet took in children whether affected in that way or not. The first decided case of cholera was on the 29th of December, and between that day and the 13th of January, 139 children died of that disorder. There were a great number of cases between the 29th of December and the 5th of January, and the moment a child was attacked by the disorder he was removed to the cholera ward. It was not my duty to go through the sleeping attics, and I do not know how many children slept in each bed. The disease increased very rapidly, and altogether as many as 200 children were attacked. They were not all placed in one ward, but several wards were appropriated for their reception. I have been in the bedrooms, and in one of them there were certainly too many.

Mr. Chambers.—Too many for what?

Baron Platt.—He merely says there were too many.

Mr. Chambers pressed the question.

The witness replied, that the number in the room might predispose to disease.

Examination continued.—I do not consider that the day-rooms were crowded.

Sir F. Thesiger objected to the mode in which Mr. Chambers examined the witness. If he did not get the answer he wished he immediately treated him as a hostile witness.

Mr. Chambers said the witness came from Mr. Drouet's establishment.

Baron Platt said that did not signify. The witness was produced as the witness of truth, and there was nothing in his demeanour, or the manner in which he gave his evidence, to suppose that he was not speaking the truth. He, therefore, thought that such a mode of examination ought not to be persevered in.

Examination continued.—The overcrowding of children together would no doubt predispose them to disease. It was one of the bigger boys' dormitories which I considered a little overcrowded. I did not go into the little boys' dormitories.

By Sir F. Thesiger.—I first went to the establishment on the last day of October. The deceased child was in the sick ward from the 8th of November, and he continued to remain there until he left the establishment, although he was not in the sick ward. While he was there he had everything that I ordered; wine, or porter, or any other thing that I directed him to have. The establishment prior to December was generally healthy, and there were very few cases of sickness, compared with the extent of the establishment. Many children were sent to the establishment with the disease of itch upon them, and he did all that lay in his power to get rid of it. The first appearance of cholera was on the 29th of December, and it broke out quite suddenly, and without any premonitory symptoms. It consequently became necessary to suddenly separate those who were attacked with the disease from the others, and this naturally created great confusion in the establishment. There was a difficulty in procuring nurses, as a great many refused to come to the establishment after agreeing to do so. Mr. Drouet during this period was very active, and did all he could to alleviate the state of things that existed in the establishment. The children never complained to me of not having enough food; nor did I ever hear any complaint from the nurses, or any other persons. Six adult persons were attacked with cholera in the establishment, and three of them died. One of the nurses died. This nurse had the charge of the same ward in which the deceased child was placed.

By Mr. Chambers.—A good many of the children were suffering from diarrhœa. I do not consider that disease as a premonitory symptom of cholera. It certainly was not so at Tooting, as, out of fifty or sixty cases of diarrhœa, only about a dozen of the children were afterwards attacked by cholera.

Mr. H. Wethall, the registrar for the parishes of Streatham and Tooting, produced his register of deaths from April, 1848, to January, 1849, and stated that there was no entry of any death from cholera during that period in those parishes, except in Mr. Drouet's establishment.

Mr. R. D. Grainger said—I am a member of the College of Surgeons, and have been a member of the profession for twenty-five years. I hold the office of superintendent medical inspector to the Board of Health. On the 5th of January I went to the establishment of Mr. Drouet, for the purpose of inspecting it. On that day my attention was particularly attracted to the cholera ward, and I also went into the school-room. After I had done this I had a conversation with Mr. Drouet, and gave him some recommendations respecting his establishment. After seeing the state of the cholera patients, I told Mr. Drouet I thought that there was not sufficient medical attendance, and that he ought to have three more medical attendants, and a physician of eminence. I also recommended that more nurses should be employed.

Baron Platt.—Those recommendations had reference to a period when the disease of cholera was raging in the establishment?

Mr. Grainger.—Certainly, my Lord.

Baron Platt said that under these circumstances he was of opinion the evidence was of no importance.

Examination continued.—On a subsequent occasion, the 6th of January, I made another examination of the establishment, and found there were *too many beds in the sleeping rooms, and they were too near each other*.

Baron **Platt**.—*It is generally the case, if there are too many beds in a room, that they are too close to each other, is it not?*

Witness.—Certainly, my Lord.

Examination resumed.—If there had been *more ventilation I do not think that there were too many beds in the room, but the want of ventilation made the overcrowding dangerous to the health of the boys. In my opinion the cause of the mischief was the overcrowding of the children, and that this had occasioned the disease.* I saw the children at the Free Hospital who had been brought from Tooting, and I examined them by direction of the Board of Health. Their general appearance was unhealthy; a great many of them had a wasting of the limbs, and some were suffering from what is generally known as pot-belly. Many were also suffering from itch and other disorders. Their pulses were very weak, and there was every indication of a feeble system of body.

By the **Court**.—I cannot say how many of the children had a feeble pulse; whether it was 40, or 20, or 10.

By Mr. **Chambers**.—In my opinion the appearance of the children denoted neglect, and that they were underfed. I did not take a measurement of any of the rooms, nor a note of the number of beds in the dormitories.

Dr. Arthur Farr, of King's College, deposed, that by direction of the Board of Health he examined the condition of the children at the hospital, and he gave a similar description of the appearance they exhibited to that of Mr. Grainger. He expressed an opinion that the children presented a remarkable contrast to the general appearance of workhouse children, and that there was a much larger proportion afflicted with the itch than was usual in workhouses. He also stated that the children presented the appearance of having subsisted upon too much fluid diet, and too little solid food, and that in his opinion if the children had had a proper diet, both as to quantity and quality, they would not have presented the appearance which he observed. The skin disease he attributed in a very great measure to the want of cleanliness. The condition of those children, no doubt, rendered them particularly susceptible of receiving such a disorder as cholera, or typhus fever, or any other disorder of a similar character.

By Sir F. **Thesiger**.—I did not see the children until the 20th of January, after they had been a fortnight at the Free Hospital. The disease of itch can in general be cured in five days.

By the **Court**.—I think that with proper appliances all these children might have been cured within a fortnight.

By Sir F. **Thesiger**.—The surgeons at the Free Hospital must have seen that the children were afflicted with the itch. The son of Mr. Wakley, the coroner, was one of the surgeons of the hospital.

Mr. T. C. Jackson, resident surgeon at the Free Hospital, deposed that he examined the children that were brought there on the 6th of January, and he corroborated the preceding testimony with regard to their condition. The children were treated medically, and Mr. Wakley, who was surgeon to the hospital, had nothing to do with them.

By Mr. **Ballantine**.—The children were not treated for the itch until the confusion had a little subsided. They were quite paralyzed at having so many children suddenly brought to their hospital in a state of illness.

By Mr. **Chambers**.—Eighty-seven children altogether were attacked with cholera, and the means of the hospital did not enable them to treat them for the itch at the same time.

By the **Court**.—The van seemed a proper vehicle to convey the children from Tooting. It was closed all round.

Mr. **Chambers** said, that Mr. James, the clerk to the guardians, could give the court information with regard to the actual character of the vehicle.

Baron **Platt** thought it was important, where there was evidence that exposure to cold might have predisposed the children to an attack of the disease which had proved fatal to the deceased.

Mr. James was accordingly examined, and he stated that the van was completely covered in with tarpaulin, besides which, rugs and cloaks were sent for the children to wrap themselves in.

Mr. **Chambers** then said that was the case for the prosecution.

Sir F. **Thesiger** submitted that there was no case at all to go to the jury. This was the very first time that an attempt had been made to establish a charge of manslaughter under such extraordinary circumstances, and it appeared to him that the evidence totally failed to support the indictment. It was alleged that, being the owner of an establishment for the reception of poor children, and having received the deceased child, and a number of others, under a certain contract, into his charge, it became the duty of the defendant to provide those children with proper food and necessaries, and that, having neglected that duty, the consequence was, that the deceased child became mortally sick and distempered, and died. Now, he would admit, for the sake of his argument, that it was the duty of the defendant, under his contract, to take care that James Andrews (the deceased) was properly fed, clothed, and lodged; and that if, by reason of his negligence or carelessness in those particulars, death ensued, he would have been subject to a charge of manslaughter; but here it was perfectly clear, from the evidence, that this poor boy's death did not arise from any direct act of negligence or unconcern on the part of Mr. Drouet, but that he died in consequence of the cholera, and that the cholera alone was the cause of death, and that Mr. Drouet had done no act which in any way contributed to that event. He thought that he was entitled to say there was an entire absence of evidence that even the predisposing cause of the attack was in any way to be attributed to Mr. Drouet, because it had been proved that before the children were removed from Tooting, Mr. Whitfield, the medical officer, had selected those whom he considered most healthy, and the most proper, on that account, to be taken away, and that the deceased was among them. The fatal attack occurred afterwards, and, under those circumstances, he thought he was fairly entitled to say that the actual cause of death was Asiatic cholera. How, then, was Mr. Drouet responsible for that visitation? What had he done? What omission was he guilty of which had immediately contributed to the death of the deceased? He submitted that by the law of England, even if it were possible to show that a party was remotely and indirectly the cause of death, it was not sufficient to support a charge of manslaughter, but that there must be proof that he was distinctly and immediately the cause of the death by some act committed by him. In Lord Hale's *Pleas of the Crown*, vol. 1, page 448, some cases were stated which directly applied to the question now at issue. Lord Hale said that in a case where a party received a wound which was not in itself mortal, but which afterwards proved so by the neglect of the person who received it to take proper remedies, the act of the person who originally inflicted the wound was under such circumstances neither murder nor manslaughter, and he said the same in another case where a wound, not in itself mortal or dangerous, resulted in the loss of life by reason of the use of poisonous salves and other ingredients. In order still more to illustrate the point of his argument he would admit that Mr. Drouet had weakened the constitution and strength of the deceased child by his treatment, still it was not by any means a necessary consequence that the cholera should arrive and attack the child he had so reduced, and on that ground Mr. Drouet could not be held responsible for that which he could not avert. Sir F. Thesiger then referred to a case mentioned by Mr. Allison in his "Report on the Law of Scotland," in which a gamekeeper who had been shot and slightly injured by a poacher afterwards died of erysipelas, in consequence of being placed in a bed where a person had died of that disorder, and said that in that case the Lords Justices, notwithstanding that the public prosecutor strongly urged that the gun-shot wound was in fact and reality the real cause of the deceased losing his life, decided that the prisoner was not answerable for the death under such circumstances. The present case, he submitted, was exactly similar to those he had referred to, and he said that as the death had been occasioned by the cholera, and was not proved to have resulted from any act of Mr. Drouet, there was no evidence upon which the jury could be called upon to convict him.

Mr. Ballantine followed, and he urged that if the present indictment were allowed to prevail, it would be a straining of the law of England which, in his opinion, would be most dangerous, and which he felt assured their Lordships would never sanction. What was the charge against the defendant? Why, it was said that by reason of something or other the defendant had done or omitted, the deceased was made liable to receive a variety of diseases—cholera, scarlet fever, typhus fever, scarlatina, &c.. Now, what would be the effect of allowing such an indictment as this to prevail? Why, the effect would be that, according to the law of manslaughter, if within a year and a day the deceased child had died of some other disorder, and some ingenious medical practitioner had fancied that he could discover that the death was occasioned by the treatment to which he had been subjected, the defendant might have been indicted for manslaughter. He might liken the treatment of Mr. Drouet and the attack of the cholera to two different assaults, in the following manner:—Suppose A was to strike B a violent blow, which might for a time make him very susceptible of injury, and while in this state C was to inflict another blow upon B, which, added to the blow of A, inflicted some time before, caused death, was it to be said that A was guilty of manslaughter? It was very similar here. Mr. Drouet might represent A, and the cholera C. It appeared to him that it could be just as well said in a case where a party had broken the leg of another who was run over by an omnibus six months afterwards, because, by reason of the accident, he was unable to run fast enough across the road to get out of the way, and that he was guilty of manslaughter as in the present case.

Mr. Chambers, in support of the indictment, contended that if he satisfied the jury that by any acts of omission or commission on the part of the defendant, he had reduced the child to such a state that he was unable to resist the attack of any disease to which human nature was liable, that in that case he was amenable to the charge of manslaughter, because, but for such treatment, the constitution of the child would have been able to resist the disease. Reasoning by analogy, it appeared to him that the prisoner and the gaoler stood in exactly the same position, and what was the law as laid down with regard to the latter? In the case of Marriot also, tried before Mr. Justice Pattison, when the accusation was, that death had been occasioned by want of food and proper necessaries, the learned judge who tried the case fully admitted that view of the law.

Baron Platt.—What was alleged to be the cause of death in that case?

Mr. Chambers.—My Lord, I don't know exactly, but the principle appears to me exactly the same, as the death was the result of a neglect of duty.

Baron Platt.—Did it not appear in that case that the death arose from water on the brain, clearly proved to be the result of starvation?

Mr. Chambers proceeded. The law equally applied to the cases of masters and apprentices, and gaolers and prisoners. In a case where a gaoler had confined a prisoner in a low, damp, and unhealthy place, and thereby produced an ill habit of body which resulted in his death, it was held to be murder in the gaoler who so acted. Again, in a case where a prisoner who had not had the small-pox, and who gave the gaoler notice to that effect, was, notwithstanding, locked up in the same cell with a prisoner who was suffering from that disease, and contracted it and died; there also the act was held to amount to murder. In these cases the death was remote from the original act, and, upon their authority, he submitted that the present indictment had been fully sustained.

Mr. Clarkson also addressed the Court in support of the indictment.

Sir F. Thesiger, in reply, contended that all the cases which had been cited by his learned friend tended to support the view of the case which he had originally ventured to submit to their Lordships. In the first case the water on the brain was the actual result of the state of starvation to which the deceased had been reduced; the same was the case where the prisoner had been confined in a low, damp, and unhealthy dungeon. The third case, regarding the confining of the prisoner in the same room with another who was suffering from small-pox, was still stronger, for that was just the same as though the gaoler had inoculated the deceased with the fatal disease, and in every case there was a direct act tending to the death. In the present case it appeared to him there was an entire absence of evidence to make out the charge of manslaughter, and he therefore earnestly called upon their Lordships to discharge Mr. Drouet from the accusation, and to exercise the power which the law reposed in them, by protecting him from being placed in any jeopardy by not allowing the case to go to the jury.

There was some manifestation of applause in the Court when Sir F. Thesiger concluded his reply.

The Judges then consulted together for about ten minutes, when

Mr. Baron Platt said, that with regard to the question whether the prisoner was amenable to a charge of manslaughter by reason of his having by bad treatment reduced the constitutional energy of the child so as to render him unable to resist any disease with which he might be attacked, they should refrain from giving any opinion; but it appeared to the Court that there was another point which disposed of the case altogether. The indictment charged the defendant with having by his improper treatment so reduced the strength and constitution of the deceased child that he was unable to resist the attack of which he afterwards died, but there had been no evidence whatever adduced to show that the deceased ever was in such a state of health as to render it probable that he would have recovered from the malady but for the treatment of the defendant. This, it appeared to the Court, was a most important omission, and one which might easily have been supplied by medical testimony; and, in the absence of such evidence, the jury would be called upon to make a leap in the dark. How were the jury to say that the child would not equally have died of cholera, if it had not been at Tooting at all? How were the jury to say that the treatment adopted by the defendant occasioned the death, when there was no evidence to show them that, independent of that treatment, the child possessed sufficient constitutional energy to have resisted the disease? Upon this ground they considered that there was no case to go to the jury, and they should therefore direct them to acquit the defendant.

The jury, on returning a verdict of *Not Guilty*, said they were unanimously of opinion that there was no evidence to support the charge.

A verdict of *Not Guilty* was then recorded upon all the other indictments and inquisitions, and the defendant was ordered to be immediately discharged from custody.

Medical Intelligence.

THE ASIATIC CHOLERA IN PARIS.

This formidable disease is daily extending its ravages throughout the city of Paris. The hospitals in all quarters are filled with patients, and the proportion of deaths to the attacks is as considerable as it was in those provinces of the Russian Empire where medical assistance could not be procured!

Up to the 16th inst., there had occurred 1989 cases, and 1132 deaths. This is equal to a mortality of 57 per cent. In the Salpêtrière alone, the deaths have been 72 per cent.! It is a remarkable fact, that the mortality has been at its maximum in two of the Parisian hospitals, La Charité and L'Hôpital Beaujon, which are not only well situated, but in an excellent sanitary condition. In the former, the deaths have been 60, and in the latter, 59 per cent. In the Hôtel Dieu, situated in a most unhealthy quarter, the deaths have been only 45 per cent.; and in La Pitié and St.-Louis, also badly situated, 50 and 51 per cent.

In comparing the mortality from cholera in Paris with that which has been observed in London, we arrive at the following result:—In *thirty* weeks the cholera proved fatal in London and the surrounding districts, to 1002 persons. Paris has only one half the population of London; but in only *five* weeks the cholera has destroyed in that city 1132 persons. Our neighbours *write* much more on the subject of *hygiène* and medical police than we do on this side of the channel; but it is pretty clear, from these different results, that their *practice* must be much more defective than our own, and they are now paying the penalty for their neglect.

THE ETHER DISCOVERY.

There is no discovery in medical science in which the claims of one person to be the discoverer are not met by counterclaims on the part of others: and as one may really have suggested the principle, and others may have carried this principle into practice more or less perfectly, there is great difficulty in determining to whom the merit is really due. The ether discovery, in America, presents a remarkable instance of this diversity of claim: and it has even been considered of sufficient importance to make it a subject of reference to Congress. We suspect it would be rather difficult to induce our House of Commons to grant a Committee for the purpose of settling such a question.

The ether discovery is claimed by Dr. Morton and Dr. Jackson. The Trustees of the Boston Hospital, in which the ether experiments were first tried, made a report awarding the credit of the discovery to Dr. Morton. Dr. Jackson asked for a revision of their judgment, and the result of a reinvestigation of the facts is, that in the report for the present year, the Trustees have reaffirmed their former judgment in favour of Dr. Morton. Both claimants appeared before the Committee, and were fairly heard. In Europe, the discovery is generally assigned to Dr. Jackson; and it is remarkable that the French Government, apparently in ignorance of the proceedings on the other side of the Atlantic, have awarded the cross of the Legion of Honour to Dr. Jackson, and have discarded the claims of Dr. Morton.

THE CAVENDISH SOCIETY.

We have just seen the Report of the Second Anniversary Meeting of the Cavendish Society. This Society was established in 1846, for the diffusion, at a cheap rate, of translations and reprints of valuable chemical works which might be considered as otherwise inaccessible to English readers. The Society has admirably fulfilled its promises, in putting into the hands of its members, during the past year, a volume of Chemical Reports and Memoirs, and a translation of the first volume of Gmelin's valuable work on Chemistry. The members have therefore had a full equivalent for the annual subscription, which is fixed at one guinea. It is proposed, if the subscriptions admit of the plan being carried out, to distribute *three* volumes during the ensuing year, and a list of excellent foreign treatises adapted to form single volumes, is attached to the Report.

Gentlemen who have allowed their names to be enrolled as members of the Society should remember that the regular payment of their subscriptions is absolutely necessary to its existence. No undertakings with literary men can be entered into, unless the views of the Society be supported by a proper supply of funds.

We shall only observe, that the Society deserves the support, not only of all chemists, but of all men belonging to the medical profession, who take an interest in the progress of science.

SEA-BATHING INFIRMARY, MARGATE.

A general Court of the directors of this charity was recently held at the London Coffeehouse, Mr. R. Pugh in the chair. The report of the committee stated that the establishment at Margate was in a satisfactory condition, and that the most gratifying results had taken place with reference to the general treatment of the patients, the great majority of whom were cured. It was, however, a painful fact that the funds of the charity had been during the past year inadequate to the calls made upon them, and there was a balance due to the treasurer. The income for the year from all sources amounted to £2,773, and the expenditure to £2,888, showing an expenditure exceeding the receipts by £115. The infirmary contained 130 beds, and during the year there have been 230 in-patients, and 350 out-patients, making a total of 21,000 patients relieved since the institution of the charity, in 1796. This report was received and adopted, and after transacting the usual business the meeting separated.

KING'S COLLEGE HOSPITAL.

At a meeting of Governors held in the board-room of King's College Hospital on Friday last, it was stated that the benefits of the hospital, during the ten years of its existence, had been administered to upwards of 125,000 patients, the yearly average now amounting to about 20,000. The regular income of the charity, it seems, does not exceed £1,600, although the hospital, on its present scale of efficiency, cannot be maintained under the sum of £4,500 per annum; an addition to the number of regular sub cribers was therefore the principal point essential to secure the permanence and well-being of the establishment.

SEAMEN'S HOSPITAL.

At a recent meeting of the Governors of the Seamen's Hospital, the Secretary read the report of the operations of the Society since the commencement of the present year. Since the 1st of January, 1849, the number of seamen admitted to the hospital was 784, and of these 583 belonged to the British merchant service, and 26 to Her Majesty's navy. There had been discharged cured from the Dreadnought Hospital ship, 642; and there remained at present under treatment 142. The income for the quarter amounted to £2,211. 15s. 5d., including a former balance of £152. 7s. 4d. The fines levied under the 7th and 8th Victoria, chap. 112, commonly called the Seamen's Registration Act, amounted to £65. The expenditure had fallen short of the income by £774. 12s. 4d.

ELECTRICAL PROPERTIES OF GUTTA PERCHA.

The attention of scientific men was first called to the electrical properties of gutta percha by Mr. Faraday, in the Philosophical Magazine for March 1848. Its utility as an insulator was fully pointed out by him. It differs from glass and sealing wax in the fact that the slightest friction speedily developes in it a large quantity of electricity. If a few square inches of the thinnest sheet-gutta percha be held in the fingers by means of a silk handkerchief (as an insulator), and rubbed rather sharply for a few seconds, the gutta percha attracts light bodies strongly, and may be made to adhere to the hand or any surface on which it is applied. To a non-conducting surface, like glass, it will adhere for many hours. When rubbed while placed on a silk handkerchief, brilliant flashes of electric light are said to have been evolved on raising it from the surface of the table. It retains its electrical properties for some minutes, and even the humidity of the air does not interfere with their development.

NEWCASTLE-ON-TYNE INFIRMARY—MEDICAL APPOINTMENT.

Mr. Chas. J. Gibbs, M.R.C.S.E., has been elected to the office of House-surgeon to the Newcastle-on-Tyne Infirmary.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL.

Dr. C. Blakely Brown has been elected Physician-Accoucheur to this Institution.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN IN LONDON AND ITS VICINITY.

Our readers will have perceived, by an advertisement in last week's number, that the Annual Dinner of this Society is to take place to-morrow, the 21st instant.

DEATH OF PROFESSOR BLANDIN.

It is with regret that we this week announce the death of Professor Blandin, at the age of 50. This event took place in Paris on the 17th inst. It is reported that his death was caused by an attack of Asiatic cholera. Prof. Blandin had attained a very high rank in his profession, and was deservedly respected by all who knew him.

OBITUARY.

At Kinsale, on the 7th inst., of fever, Robert Warren, Esq., M.D. As a medical practitioner of thirty years in his native town, there were few who so fully gained the respect and affection of all with whom he came in contact. As a physician, he was kind, anxious, attentive, and successful. As a friend, sincere. As a man, strictly upright and honourable. In his situations as Superintendent of the Dispensary and Workhouse, his considerate care and untiring diligence in behalf of the poor will not be soon forgotten.

At New Ross, on the 7th inst., of cholera, after a few hours' illness, Dr. James Mullin, aged 56, Medical Attendant to Fever Hospital and Constabulary.

On the 10th inst., at his residence, Nuneaton, Warwickshire, after an active and useful life, John Bond, Esq., surgeon, in the 79th year of his age.

BOOKS & PERIODICALS RECEIVED DURING THE WEEK.

Questions and Observations in Hygiene for Naval Medical Men respecting the Asiatic Cholera. By F. J. Brown, M.D. Lond. Assistant Surgeon, &c.

Lameness in the Horse. With Coloured Lithographic Plates. By Wm. Percivall, M.R C S.

Bulletin Général de Thérapeutique. 3, 4, 5, 6. and 7 Livraisons, 1849.

A Practical Treatise on Morbus Coxarius: with Cases and Illustrations. By W. C. Hugman, M.R.C.S. &c.

Oppenheim's Zeitschrift für die gesammte Medicin. Nos. 1 and 2, 1849.

The British Record of Obstetric Medicine. No. 6, April 15.

On the Cryptogamous Origin of Fevers. By Dr. J. K. Mitchell (U.S)

Obstetrics. The Science and the Art. By Charles D. Meigs, M.D. (U.S.)

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, April 14.

Births.		Deaths.		*Av. of 5 Win.*	
Males....	707	Males....	512	Males....	592
Females..	639	Females..	554	Females..	577
	1346		1066		1169

Causes of Death.		*Av. of 5 Spr.*
All Causes	1066	963
Specified Causes	1064	959
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*..	241	198
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	37	46
3. Brain. Spinal Marrow, Nerves, and Senses	144	123
4. Heart and Bloodvessels	36	39
5. Lungs, and other Organs of Respiration	198	131
6. Stomach, Liver, and other Organs of Digestion	66	62
7. Diseases of the Kidneys, &c...	11	11
8. Childbirth, Diseases of the Uterus, &c.	6	8
9. Rheumatism, Diseases of the Bones, Joints, &c.	5	8
10. Skin	4	1
11. Old Age	49	50
12. Sudden deaths	7	11
13. Violence, Privation, Cold, &c.	21	38

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	6	Convulsions	[illegible]
Measles	26	Bronchitis	79
Scarlatina	48	Pneumonia	79
Hooping-cough	69	Phthisis	139
Diarrhoea	14	Dis. of Lungs, &c..	24
Cholera	2		
Typhus	43	Teething	12
Dropsy	20	Dis. of Stomach, &c.	11
		„ Liver, &c..	11
Hydrocephalus	24		
Apoplexy	30	Childbirth	3
Paralysis	31	Uterus	[illegible]

Remarks.—The total number of deaths was 103 *below* the weekly spring average! This shows a highly favourable state of the health of the metropolis. The deaths from cholera were only *two*, so that we may consider the disease to have disappeared, at least for the present.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 29·38
„ „ „ Thermometer[a] ...... 41·8
Self-registering do.[b] .... Max. 71· Min. 25·5

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 0·8.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 8° *below* the mean of the month.

NOTICES TO CORRESPONDENTS.

Notice.—In order to prevent delay in the insertion, it is particularly requested that all letters enclosing advertisements be marked on the outside "*Advertisement.*"

We are obliged to M.D., Edinburgh, for the information contained in his note. We have heard of the doings respecting the Reid Professorship of Music and the Annual Concert. We may probably have occasion to make use of the information.

Dr. Wright.—The Memorial will be published next week.

The space occupied by the report of the medical evidence in the trial of Drouet, has compelled us to postpone until the next number the communications of Dr. Rogers and Mr. Kesteven, as well as the reports of the South London and Newcastle Pathological Societies. These will appear in the following number.

Dr. Dinny's (Arbroath) case shall be inserted.

Corrigenda.—In the title of *Dr. T. K. Chambers's* paper, in our last number, page 639, instead of "mechanical," it should be "*medicinal* agents."

In *Dr. J. C. Hall's* paper, in page 643, a line has been transposed. The sentence should stand thus:—"the pancreatic fluid is in reality charged with the important office alluded to. In the exhibition of cod liver oil, we know also that the best time to give it to the patient is one or two hours after breakfast, after dinner, and after tea."

Received.—Mr. J. Sharp.—Mr. J. Barett (Bath).

THE GENERAL INDEX.

We have to announce to our Subscribers that a General Index to the *first* 40 *Volumes* of the London Medical Gazette will, it is calculated, form a large Volume of about 700 pages. The cost of the Index Volume, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. Wilson and Ogilvy, 57, Skinner Street, will receive the Names of Subscribers.

London Medical Gazette.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

BY BRANSBY B. COOPER, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

LECTURE LIV.

DISEASES OF THE BREAST—*continued.*

MALIGNANT DISEASES OF THE BREAST—*difficult of definition—dependent upon peculiarity of diathesis—scirrhous tubercle of the mammæ—manner in which the disease commences—its progress, symptoms—physical effects—its different stages—adhesion, suppuration, ulceration, gangrene—effects of scirrhus on the constitution—case—cause of scirrhus, may be either predisposing or exciting—slight circumstances sufficient to produce the disease when the diathesis is malignant—length of time during which life can be preserved in cases of scirrhus will depend upon the organ secondarily affected—cases.*

I HAVE now completed the description of the most important of those diseases of the breast which have no malignant tendency,—and I shall proceed to the consideration of those having a malignant character; which are uncontrollable by any known system of medical or surgical treatment, and which, from the moment of their development, go on increasing with greater or less rapidity, to the certain ultimate destruction of the life of the individual attacked.

It is very difficult to define precisely what is meant by the term malignant disease, and equally so to recognise it with certainty when presented to the view. The physical conditions of a non-malignant and highly malignant tumor may be so similar as almost to preclude the possibility of distinguishing one from the other. Before attempting, however, to define the meaning of "malignant disease," let us understand what is meant by the word tumor. John Hunter has stated that a tumor is a "circumscribed substance produced by disease, and differing in nature and consistence from the surrounding parts." This definition does not, however, apply to all tumors,—as, for instance, steatoma and exostosis, both of which are tumors similar in nature and consistence to the structures whence they have sprung. We must therefore regard tumors as of two kinds; those that differ in nature and consistence from the surrounding tissues, and those that are similar to the parts whence they have their origin. It does not follow, however, that either of these classes are malignant: the abnormal growth may rapidly increase in size, so as to destroy the function of the organs among which it is seated, and yet may in no wise interfere with the constitutional powers of the individual, nor go on to the destruction of life. The malignant tumor, on the other hand, not only differs from the neighbouring structures, but possesses an indefinite tendency to increase, to ulcerate, and, above all, to propagate itself to distant parts of the body through the medium of the absorbents. Malignant disease is, in fact, constitutional, and not local; but at the same time there is reason to believe that a local disease, not in itself at first malignant, may under peculiar circumstances take on a "malignant character," owing to the reparative action being interfered with, and the constitution becoming secondarily affected. This seems to be the case in chimney-sweeper's cancer, which may be cured if removed as soon as it makes its appearance; but if the sore be exposed to the continued irritative influence of the soot, it is almost certain, if there be any tendency to malignant diathesis, to assume a specific action, and destroy the life of the patient.

It may, however, be a question whether a protracted local action may not lead to a local malignant deterioration; and it is very important to ascertain whether the malignancy is, under such circumstances, entirely confined to the local disease, or whether the constitution becomes secondarily affected,—in the first case extirpation of the diseased part would doubtless be an effective means of cure; while in the latter the operation could offer no hope of advantage, unless medicinal means could at the same time change the whole constitutional tendency. The centre and periphery of the organismus so constantly sympathize with each other, that the extirpation of a local disease, if the health of the patient can at the same time be improved, may be productive of considerable advantage. We must, however, acknowledge that therapeutics have yet done but little towards the successful treatment of true malignant disease.

In speaking of malignant disease, it is much the practice to employ the expression "malignant diathesis," as if it were possible to recognize the presence of this peculiar condition by the appearance of the patient; it appears to me, however, that great difficulty opposes itself to our arriving with any degree of certainty at such a conclusion; and we cannot, I think, go farther than to say that patients suffering from scirrhous or fungoid disease present a cachectic aspect so similar to that supposed to indicate a strumous diathesis, that, generally speaking, one cannot

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be distinguished from the other: the only true characteristic of the specific nature of the malignant disease being found in the physical conditions of the local affection. This opinion is supported by the fact that both in scirrhus and fungus hæmatodes the disease often passes through all its stages, without producing much apparent constitutional effect; yet this disease is perfectly incurable; and when the constitution in such cases does become affected, it appears to be rather from the effect than as the cause of the local disorder. I do not mean to argue that there tional disturbance in such cases, but merely does not exist some great central constitu- to show that no reliance can be placed on the appearance of the patient; as I believe it has yet to be discovered that the "error loci" lies in the deterioration of the blood, which, under these conditions, is not only unequal to the supply of healthy nutrition for the generation of the various tissues, but that the effusion leads to the production of the new elements which constitute the tubercles and tumors termed malignant; and we can readily believe that this may originally occur either from some local change in the tissue itself, or from the mass of the blood falling into a diseased condition. If a tissue in any part of the body become either injured or diseased, so that it is unfitted to receive the molecules of the blood intended for its natural supply, not only will an unhealthy local action be established in the affected part, but the blood itself, from retaining those constituents which should have been distributed during its circulation, must experience a change which will promote a universal unnatural condition through the whole organismus. This effect is indicated by a train of symptoms deviating from a healthy action; and may depend equally upon local injury, and upon the suppression of any of the natural secretions.

In healthy constitutions these sudden derangements are overcome by the vital energy of the patient, and the equilibrium temporarily disturbed is soon re-established between the blood the source of supply, and the tissues the recipients of the constituents of that blood; but in a cachectic habit the restoration cannot be effected, and permanent disease becomes consequently established. In health, when either a formative or restorative action is excited, there is always a due regard to the proportion between the increased action of the vessels, and the necessity for the supply to the tissue to be formed or restored: as soon as the reparation is completed, the increased action ceases, the parts being restored to their healthy condition. I cannot give a better instance of actions of this temporary kind than the periodical excitement of the mammæ during menstruation. None of the ordinary consequences of inflammation follow this action, but there can be no doubt that the mammæ are thus prepared for their important office of lactation. At the same time is it not probable that, to this frequent excitement, and the non-performance of the function to which it is intended to be preparatory, may be traced, at least in some degree, the tendency to malignant breast disease so often encountered in unmarried women? The most frequent of these malignant diseases is probably that known as the

Scirrhous tubercle of the mammæ.—The early symptoms of this disease are usually described by the patient as follows:—The presence of the tumor in the breast is generally first discovered by accident, under the form of a small hard knot about the size of a marble, or perhaps the patient was led to examine the bosom in consequence of an uneasy sensation in some part of it, or the disease may have been detected from a red stain being found upon the linen: this would naturally lead to an investigation, when it would be discovered that, on pressure, a small quantity of sanious fluid could be squeezed from the nipple. This symptom is not, however, truly pathognomonic of scirrhus, for it is frequently found in chronic inflammation of the mamma. The above symptoms may be regarded as indicative of the first stage of "scirrhous inflammation." This term appears to me very appropriate, as the abnormal action is in many respects similar to common inflammation, the result being in either case an adhesive, suppurative, ulcerative, or gangrenous process; but instead of these being, as in health, reparative, they lead to the destruction of the tissues affected, and this destructive action ends only with the life of the unfortunate sufferer.

The deposition of the scirrhous tubercle is the result of an adhesive process, but the plasma deposited is of an unhealthy character ("cacoplastic"), and inorganizable as far as refers to the tissues in which it is deposited, and into which it is incapable of being converted. This action is sufficient to prove the presence of disease; for in a healthy state of the constitution, the capillaries of every structure eliminate from the blood such constituents only as are fitted for the tissue which they are intended to nourish; while in the diseased state just described, a new element is eliminated, remarkable for its excessive and unnatural hardness, and producing a fresh source of irritation. This condition is usually attended by an increased determination of blood to the part, and by the ordinary phenomena in increased action—viz. redness, swelling, heat, and pain. Scirrhus generally increases very slowly, and this is one of the characteristic features of the disease, and too often tends to lull the apprehensions of the patient, and prevents her seeking medical relief, at the only period, indeed, at which benefit could be hoped for from the science of medicine. Although the growth of these tumors is very gradual, it goes on insidiously, and, after a time, the part becomes painful; the pain is also of a very peculiar kind—lancinating, as it is termed. This marks the progress of the disease, and it is generally observed that at this stage the swelling and pain increase before the time of menstruation, and become mitigated when that time arrives.

As the tumor increases the nipple becomes retracted; and this does not depend upon an unnatural fulness of the breast by which the nipple is buried as it were; but the tension of the lactiferous tubes establishes a diseased action, in consequence of which they become shortened, or rather perhaps a deposit of lymph destroys their elasticity, and prevents their extending with the growth of the breast. A discharge from the nipple frequently takes place at this stage of the disease; but this, as I have remarked before, does not prove it to be malignant. The retraction of the nipple is often followed by a puckering in of the skin, which arises from the adhesion of the integuments to the newly deposited induration. This action gives the skin the appearance of cicatrices, and these are sometimes so strongly marked as to lead to the belief that an operation had been performed at a previous period. The skin about the nipple often partakes of the characteristic hardness of the mammary tumor: this is always to be considered a sign of the inveterate malignancy of the disease. The follicles around the nipple frequently become enlarged, and filled with sebaceous matter of a black colour, and by which they are rendered peculiarly conspicuous. At this stage of the disease the absorbent vessels are liable to become indurated; and, on attempting to raise the arm from the side, considerable pain is experienced, extending towards the axilla; or, if the tumor be situated between the nipple and the sternum, the stretching of the pectoral muscle gives pain towards the cartilages of the ribs, indicating the progress of the disease to the absorbent glands of the anterior mediastinum; or, less frequently, the pain will extend towards the scapula on the affected side, showing the absorption of malignant matter in that direction. The tumor, through all its stages, goes on increasing in size, the surrounding parts becoming more affected from fresh effusions of contaminated adhesive matter; the absorbent glands also become enlarged; the severity of the pain increases, although there will be periods of comparative ease, and the general health begins to give way. The adhesive action seems now to have gone to its extreme limit; the adventitious induration in the breast becomes a source of irritation to the surrounding tissues, and the suppurative stage of the disease commences.

Suppuration in cancer.—The process of suppuration does not always precede ulceration: indeed, the actual formation of pus is rare in this disease: nevertheless there is usually to be found an indistinct fluctuation in some part of the tumor before the skin ulcerates: the fluid which escapes from the tumor, whether the opening be factitious or formed spontaneously, bears but slight resemblance to true pus. The microscope may in such a case be usefully employed to aid in forming the diagnosis. During this kind of suppurative process or softening down of tissue before ulceration, the character of the pain becomes much altered, being now rather throbbing and burning than acute; the discharge, when it takes place, frequently irritates the skin, producing an erythematous blush; and, indeed, a distinct attack of erysipelas sometimes supervenes. Both local and constitutional means must be adopted to subdue this fresh source of irritation; and, as a preventive to the excoriating action of the discharge, it will be found a good plan to cover the surrounding skin with some simple ointment. Constitutionally there can be little done beyond allaying to some extent the pain by means of narcotics, and maintaining the vital powers by the use of tonics and generous diet. The opening through which the matter discharges itself soon increases in size, and very shortly

The ulcerative process is set up.—This proceeds with greater or less rapidity according to the constitution of the patient; but its pathognomonic character is to advance slowly. The ulceration not only extends itself over the surface, but interstitially into the mass of the tumor, dividing it into granulating lobules, which are spongy in their texture, and bleed very readily. This stage of scirrhus is attended by a gnawing pain, which appears to be considerably relieved by the bleedings that occasionally occur, although at the same time the loss of blood lowers the patient, and increases her irritability. Under these circumstances, opium and other soothing remedies are indicated. The hæmorrhage from the ulcerations is easily checked by means of a pledget of lint dipped in cold water, and applied with slight pressure. The glands which were affected in the first stage of the disease continue progressively to increase in size, unless they have become involved in the ulceration, when the supra-clavicular glands are generally the first affected.

The health of the patient now becomes seriously impaired, and every vital function more or less interrupted. A cough frequently indicates that the contamination has extended to the lungs; uneasy sensations are experienced in the region of the stomach, and loss of appetite supervenes. The rest is destroyed by rheumatic pains in the bones, which are sometimes broken by the slightest application of force; indeed, when the disease has attained this stage in its progress, it appears that every structure in the body has become implicated in the general deterioration. These urgent symptoms sometimes, however, develope themselves even before ulceration has commenced.

During ulceration there is always some attempt on the part of nature to fill up the sores by granulation, but the granulations themselves are equally marked by the malignant character of the disease. They are unhealthy in appearance, irregular in their growth and vascularity, and possessed of but a slight degree of sensitiveness, for, although there may be considerable pain, it will be found that this arises from the exposure of the sentient extremities of the nerves in the ulcerative process. The pain is most readily subdued by the application of the nitrate of silver in solution. The scirrhous granulations have a great tendency to become everted instead of converging, as in the action resulting from common inflammation, the convergence leads to cicatrization, while eversion of the edges of the wound prevents the possibility of its healing. If, under these circumstances, any fresh source of excitement arises which it exceeds the power of the granulations to sustain, they give way, and then commences the *gangrenous stage of scirrhus;* the general character of the sore is now at once altered, it loses its red appearance, and its irregularities are no longer to be observed, but it presents one deep excavation having a greyish or slate-coloured surface: the pain is much diminished, and most of the urgent symptoms seem to be relieved. In the course of a few days a slough is perhaps thrown off, and an apparently healthy surface exposed: this change often leads to the delusive hope that a healthy condition is being re-established: such hope proves but short-lived; the malignant action returns with increased severity, the constitution suffers still more, and the patient now soon sinks, utterly worn out by the constant suffering to which she has been so long exposed.

The effects of scirrhus on the constitution, during the progress of this malignant inflammatory action, are more or less characteristic of the local morbid changes that are taking place: for instance, during the adhesive stage, while the deposition of the adventitious induration is going on, there is more or less febrile action, indicated by a quickened pulse, diminished secretion, and thirst; and there is also a peculiar cachectic appearance,—the complexion is sallow, and although the extent of constitutional derangement is not by any means commensurate with the local determination, yet there is generally sufficient evidence of deviation from a natural action to excite a suspicion of danger in the surgeon's mind. During the suppurative process a new train of symptoms arises, somewhat resembling those in the formation of abscess; there is, however, only an attempt at the formation of pus, for the effusion produced differs entirely from it. The rigor is distinct, the pain very peculiar, and the fluctuation doubtful. The question now arises as to whether mere disintegration, premonitory of ulceration, is going on, or whether matter is actually forming; at any rate, poultices, fomentations, narcotics, and tonics, are indicated: probably at this time difficulty of breathing, disordered function of the liver or stomach, with pains similar to those in rheumatism, are complained of, and must be relieved by appropriate remedies. If the indurated mamma has acquired a considerable size and hardness, and presses on the absorbents so as to produce their consequent obliteration, swelling of the arm on the affected side will add greatly to the sufferings of the patient, and an aggravation of the constitutional symptoms necessarily result. The ulcerative stage is marked by a fresh train of symptoms: the arterial action seems now to be diminished, and that of the absorbents to be proportionally increased; and it is at this time that the propagation of the disease to distant parts is especially effected, and the organ which is the subject of this extension of the disorder is recognized by the interference with the performance of some peculiar function: as under these circumstances disorganization must have taken place, no benefit can be derived from any attempt to relieve the functional disturbance, and the progress of the disease will continue with greater or less rapidity according to the amount of vital power possessed by the patient. The extension of the ulceration (which sometimes goes on rapidly) adds greatly to the suffering of the patient, not only from the exposure of a large ulcerating surface and its consequent discharge, but also on account of the fœtid odour arising from it, and which is almost insufferable to the patient, and renders it impossible for others to remain long near her person: a weak solution of chloride of zinc is perhaps the best application that can be employed in these offensive ulcers, as it both removes the smell, and induces a more healthy action in the ulcer itself. The arm should be confined to the side, as its motion irritates the sores, produces pain, liability to bleed, and sometimes sloughing; the latter condition may arise either from a local altered condition of the sore, or from diminished constitutional power, but whatever may be its cause it indicates the close approach of the fatal termination to the disease. At the present time I have a patient under my care, in whose case you have had an opportunity, gentlemen, of witnessing the gradual progress of scirrhous mamma through all its stages. The patient I allude to, Elizabeth Hounslow, æt. 42, was admitted on the 7th of July, 1848, with a small moveable scirrhous tumor in the left breast; it was attended by lancinating pain darting towards the opposite mamma; her general health was cachectic, perhaps to an extent that would warrant the application of the term "malignant diathesis." The disease had made its appearance shortly after the cessation of menstruation: she had had but one child (still-born), and that was thirteen years ago. The disease commenced about two years since. I extirpated the tumor, which presented upon dissection all the usual signs of true scirrhus, having a hardened centre like a nucleus, from which radiating lines diverged, running towards the circumference of the mamma. None of the absorbent glands were enlarged, and for six weeks after the operation the patient seemed to do well, when, just as the wound had cicatrized, a small hardened tubercle appeared at its outer angle; as this was perfectly moveable, I excised it also. The second wound never healed, but ulceration of the old cicatrix came on; the glands in the axilla became enlarged, the left arm swollen, and œdematous and lancinating pain increased, and was attended by nocturnal rheumatic achings in the bones of the affected arm. Her rest has been so much interfered with in consequence of these symptoms, that her constitution has become much impaired, and a sloughing has supervened, which has destroyed the morbid granulations, and it would, at the present time, be difficult to distinguish it as a case of scirrhous disease. A fresh tubercle has formed on the sternum, and this seems to have checked the progress of the ulceration. She complains of frequent cough, attended by distressing dyspnœa, which were somewhat alleviated by opium: her appetite has failed her, and she is only able to take a little bread dipped in wine.

Since the above account, at the expiration of some months from the original operation, she died, and upon a post-mortem examination her lungs were found much diseased; a large malignant tumor existed in the right lobe of the liver, and scarcely an organ in her body presented a healthy appearance.

This case has afforded during its progress a good illustration of scirrhus in its various stages; but both the physical condition and constitutional symptoms are in this disease subject to great modification according to the age and temperament of the individual, and the accidental circumstances under which the disorder first makes its appearance. Sometimes scirrhus commences as a tubercle forming a hard insulated moveable tumor, attended with but slight pain, and that only occurring occasionally; nevertheless, the pain manifests that lancinating character so peculiar to malignant affections: the commencement of the disease is probably unattended by any premonitory sign of inflammation, but it advances by insidious steps, the skin soon becoming adherent and puckered. Such is the progress of the disorder as it usually occurs in thin spare unmarried women at about the age of 60; in those subjects, indeed, who possess no inflammatory tendency, and in whom the development of the diseased structure is consequently very slow. These tumors should not, I think, be extirpated, but the constitutional powers of the patient maintained by every means at the disposal of the surgeon, and if proper precautions be taken to prevent the accession of any source of irritation, the disease may go on for many years, while a surgical operation tends to excite a new local action, which secondarily affecting the constitution, goes on with great rapidity, and the death of the patient is hastened instead of being retarded.

Upon the examination of a scirrhous tumor after its removal, it will be found composed of a deposition of a peculiar indurated substance, within the "interlobular" tissue of the mamma, and not in the lobes themselves, which will indeed, during the early stage of the disease, often be found wholly uncontaminated. As the disease advances, the excretory ducts of the mamma become filled with a hardened opaque substance, and ultimately all the structures become converted into one scirrhous mass. Scirrhus sometimes commences with symptoms of considerable local inflammation: in that case the whole breast becomes almost simultaneously affected: this may perhaps be rather considered as a state of acute scirrhous inflammation than as one of scirrhous tubercle. This kind of malignant action attacks women at an earlier period of life than the tubercle, and the subjects are also generally of a more sanguineous temperament. In these cases the glands in the axilla become much earlier implicated: the skin ulcerates sooner, but there is not the same tendency to retraction of the nipple, neither is there the excessive hardness so truly characteristic of scirrhus in its chronic form; the pain, although severe and more continued, is peculiar from its throbbing as well as lancinating and shooting nature, and from the suffering experienced, the patient becomes conscious of the presence of the complaint at a much earlier period of the attack. If in this form of the disease extirpation be determined on, the patient requires considerable preparation before the operation, and great care must be taken, in the removal of the breast, that the whole of the diseased structures be taken away. I need scarcely remark that the operation ought to be performed before the axillary glands are affected, or the skin becomes adherent to the tumor, as these circumstances much lessen the chances of a successful result to the surgical treatment.

In acute attacks of scirrhous inflammation the effusions are so rapidly formed, that they are frequently wanting in the stronger characteristic indications of malignant disease, both with respect to the physical and constitutional symptoms: considerable difficulty may therefore arise in the diagnosis. In going through the wards of the hospital, it may often be remarked that great differences of opinion arise in cases of breast disease: this depends in great measure upon the rapidity with which the disorder has been developed. In women after the age of fifty, who have lived in a state of celibacy, and who betray a generally cachectic condition, and are the subjects of small hardened moveable tumors in the breast, accompanied by lancinating pain, there is no difficulty in at once forming a judgment as to the nature of the disease; but where the affection has commenced before the cessation of menstruation, and in women who have married and borne children, it is difficult to determine whether or not the disease be malignant; it is, however, of the highest importance to ascertain if possible the true nature of the tumor, for if it should prove malignant, delay may permit of its propagation to some distant part, and then the removal of the breast would be no longer available. The enlargement of the axillary glands is not, however, invariably to preclude the operation, for that condition may proceed from ordinary irritation alone; this is particularly the case in the acute stage of the disease: the best test for ascertaining if the glandular swelling be or not the result of specific contamination, is the application of leeches and fomentations to the breast, to subdue the inflammatory action: if the glandular swelling proceed from simple inflammation, it will subside under this treatment; but if it arise from malignant action, no benefit will accrue.

Upon dissection of a breast affected by this form of scirrhous inflammation, the effusion will be found to differ very much as to its hardness, and although diffused over a large surface it is still deposited in the "interlobular" tissue; but it is frequently so soft in consistence as to resemble fungoid disease, and is also more vascular than the chronic circumscribed scirrhus.

I believe, indeed, that little or no distinction can be made between the deposit in scirrhus and that in fungoid disease, excepting with respect to the rapidity of growth, which depends in any operation more upon the constitutional peculiarities and power of the atient than upon any very specific character in the deposition itself. I have seen the dissection of a breast, removed under chronic inflammation, presenting an appearance so similar in every respect to that in scirrhous inflammation, that it was almost impossible to determine with certainty the character of the disease, the corroboration of the supposition that it was non-malignant being found in the circumstance of its not reappearing after the operation. The aid of the microscope is now often called in in such cases, but, at least at the present time, I do not believe that much reliance can be placed on its evidence.

I removed a tumor, of the character of which I felt doubtful, and sent, therefore, portions to three of our best microscopists for examination; they all declared that the exudation globules were not those that result from malignant action: the disease, however, returned in the course of a few months, and the patient died, in my opinion, of true scirrhus. The nature of the affection was corroboratively proved in this case by the formation of tubercles in different parts of the body.

The microscopists say that the exudation globules of a malignant effusion present numerous nucleated cells, which have a tendency to go on producing fresh cells, and consequently an indefinite increase in the malignant mass. While healthy exudation globules become at once converted into that tissue from the capillaries of which they have been effused, in scrofulous diatheses the globules possess a kind of intermediate character, being neither fitted for the formation of healthy structure, nor to be converted into the specific malignant deposition. These different effusions have been denominated by some pathologists emplastic, non-plastic, and caco-plastic.

Causes of scirrhous disease.—The causes of scirrhus have been divided into predisposing and exciting: no extrinsic circumstance can, however, be sufficient to induce malignant disease, where there is not a constitutional tendency to the specific action indicated by what is termed malignant diathesis. In individuals who have this constitutional peculiarity, almost any exciting cause will develope the latent germs of malignant disease; so that, in fact, the presence of a scirrhous tumor can scarcely be regarded exclusively as the complaint, but rather as the external manifestation of that which forms a specific constitutional characteristic. It is from these circumstances that the uncertainty of result arises in extirpation of the local affection, unless at the same time it be possible to improve the diathetic tendency by the use of appropriate constitutional remedies. Blows on the breast, the excitement of this organ during the periods of menstruation or lactation, may tend to the development of scirrhous inflammation or tubercle; but I believe the most powerful of all exciting causes to be grief, and in eliciting the history of such cases you will generally find that the subject traces the commencement of the malady to some severe mental distress. As soon as the disease is established, and the affected mamma increased beyond the natural size, it is rendered further liable to external injury; indeed, the complaint is often aggravated, and its progress hastened, by a blow, and it is impossible to describe the innumerable circumstances that may prove exciting causes to scirrhus in the constitution where the specific tendency exists.

The length of time through which the life of a patient may be prolonged in malignant disease, must depend in great measure upon her vital power, and the slowness with which the disease is propagated by means of the absorbents, and also upon the importance of the organ which ultimately becomes affected. The lungs are, perhaps, most frequently implicated by the secondary action, especially in persons who have a phthisical tendency; the uterus and ovaria are also very often affected; and, indeed, there is scarcely an organ or tissue that may not become secondarily the subject of cancer.

The period at which dissolution supervenes depends, of course, upon the importance of the function of the organ attacked: death, however, sometimes occurs from the constitutional irritation excited by the local affection itself, and this may arise from the constant acute pain, producing want of rest, or from the discharge during the ulceration causing a drain upon the system which destroys the constitutional powers: under these circumstances death may result without the disease having been propagated to distant parts of the system, although there can be no doubt that the disintegration produced by ulceration may tend to the deposition in other tissues. In scirrhous tubercle of the breast I have known a patient live for many years, suffering only occasionally from lancinating pains: these may often be mitigated by soothing remedies, and the occasional application of two or three leeches, also maintaining the arm on the affected side in a perfect state of rest. Some years ago I was called in to a case of a lady at Camberwell, who had been under the care of Mr. Arnold for four or five years, with scirrhous enlargement of one of her breasts: the disease had been kept quiescent by occasional leeching and poulticing, but at length it began to increase, and become much more painful. I consequently extirpated the tumor, and the patient remained quite well for ten years; at the end of that time the disease returned in the cicatrix, and ultimately destroyed her life. In another case, a lady, about 48 years of age, a patient of Mr. Rowe, of Woburn Place, was the subject of small scirrhous tumor of the breast, which had existed for four years without having undergone any change, excepting a slight increase in size: at this time she accidentally received a blow on the diseased breast; the tumor then began to increase with great rapidity, and became very painful. I ordered leeches, poultices, and fomentations, but she derived no benefit from these appliances, and I therefore removed the tumor. Eight years after, the disease had not returned, although, upon dissection of the indurated mass, it presented every appearance of the true scirrhous tubercle. I have, indeed, no doubt of its having been so; nor is the fact in this case inconsistent with what I have said of the nature of the disease, but only proves that although the patient may be the subject of a malignant diathesis, the tendency may remain long dormant under certain conditions; until, indeed, it be roused again into action by some sufficient exciting cause.

When the disease assumes the more active form of acute scirrhous inflammation, extirpation is rarely successful, even as a means of prolonging life, as the operation itself proves sufficient to create a further development of the disease; even under the attempted restorative inflammation, cacoplastic matter is deposited instead of healthy fibrine; and further, under this new action it generally follows that the disease is rapidly propagated to other parts of the body, and quickly proceeds to a fatal termination.

Mr. Gosse, of Hoddesdon, consulted me respecting a patient who had an ulcerated scirrhous breast, from which she was suffering great pain, and which was discharging profusely. As the glands in the axilla were not enlarged, Mr. Gosse agreed with me that extirpation offered the only chance of prolonging the life of the patient. She consented to the operation, and I performed it in August 1838. The wound had scarcely healed when the disease reappeared, rather under the fungoid than the scirrhous form: she died in six months from the time of the first operation. Indeed, from what I have seen of diseases of this class, I conclude that but slight hope can be entertained of recovery by the extirpation of a tumor when in a state of ulceration; and the only reason for recommending such a mode of procedure would be the removal of the great misery and pain arising from such a large ulcerated surface, and checking the profuse discharge so generally concomitant with ulceration, and in addition, the probability, remote as it may be, of prolonging the life of the patient.

Original Communications.

EFFECTS OF CHLOROFORM AND STRONG CHLORIC ETHER

AS NARCOTIC AGENTS.

By John C. Warren, M.D.

One of the Surgeons of the Massachusetts General Hospital; and Author of "Etherization, with Surgical Remarks," &c.

[Continued from page 685.]

Part II.

In a Review in the London Medical Gazette for Sept. 1848, page 424, a quotation is made from "Remarks on the Employment of Anæsthetic Agents in Midwifery," by G. T. Gream, in which he says—"For they should know that fatal consequences have ensued from the use of chloroform during parturition."

We have thought it right to mention this statement; but as there is uncertainty about it, it should not be considered, in the present state of our information, as a well-authenticated statement of death from chloroform. It seems a little remarkable that in these cases, and also in some others mentioned above, in which it could scarcely be doubted that chloroform was the cause of death, that no examination of the dead body was made, or, at least, none reported.

M. Malgaigne, in the Proceedings of the French Academy of Medicine for Oct. 31st, 1848 (vide Gaz. Méd. de Paris, Nov. 18), reports a case as follows:—"A man wounded in June had the neck of the humerus broken by a ball, which was lost in the flesh. Two abscesses formed, and were opened without discovery of the ball. Finally, gangrene appeared in the wound, and the patient was sinking under secondary hæmorrhage. Having at length decided to attempt the scapulo-humeral disarticulation, with scarcely any hope of saving him, but rather to prevent him from dying of hæmorrhage, the patient was put to sleep by chloroform. He aroused after the operation; but the search for the ball, which had been split in two against the scapula, and buried in the walls of the thorax, requiring another incision, chloroform was again applied to the nostrils, and the incision commenced on the living, was finished upon the dead body. His condition was so desperate that I could not for an instant attribute his death to chloroform; and there is no surgeon who in similar circumstances has not had the grief to see patients die under his hands."

M. Roux, at the sitting of the Academy of Medicine for Jan. 16, 1849, (Gaz. Méd. de Paris, Jan. 20th), related the following interesting case, in which he attributed death to syncope:—

"Some months since I was called on to operate upon a female, 50 years of age, with a cancer of the breast. She was much debilitated. Besides the tumor of the breast, the glands of the axilla were also much diseased, and their extirpation judged necessary. I did not hesitate to put her under the influence of chloroform. During the sleep, which was sound, I removed the tumor. The first operation was hardly ended when the patient awoke. It then remained for me to extirpate the glands in the axilla: this I begged her to permit me to do without resorting to chloroform. She consented. The operation was long and laborious. The dressing was applied; then, according to my usual custom, a bandage rolled around the body. To apply this bandage she was made to sit up: syncope at once took place; all efforts to reanimate her were vain—the patient was dead.

The following case is one of so recent occurrence that I am induced to give it at length:—

John Griffith, an Irishman, aged 31 years, a seaman in the Navy, who was admitted into the New York Hospital early in December, on his return from Mexico, suffering with diarrhœa, chancres, and hemorrhoids, died from the administration of chloroform on Saturday, while undergoing an operation. A coroner's jury so declared, adding that the use of it was proper and justifiable in the case. The affidavit of Dr. Buck tells the whole story:—

"Gurdon Buck, Jun., attending surgeon to the New York Hospital, being sworn, says:—'That on or about the 26th of December, I advised that chloroform should be administered to the deceased, for the purpose of examining the condition of the rectum, the parts being in a state of such excessive irritability as scarcely to admit of a separation of the nates. The patient recovered from the effects of the chloroform, and remained in all respects in the same condition, except the local ailments spoken of; and he having never complained of either his head or his chest, and not having suffered from the first administration of chloroform, I directed it to be administered to him for the purpose of performing an operation upon the rectum, and the operation of circumcision to remove a phymosis caused by the chancres: the patient soon became excited by the chloroform, as is usually the case, but not beyond a degree which I have often observed. Shortly after he became more tranquil: the deceased was placed upon his side, and the operation performed, which consisted in the removal of two external tumors, and the tying of one internal tumor.

"'At this moment my attention was arrested by my assistant's calling for a wet cloth: on examining the patient, I found his face and neck of a livid leaden hue or colour, the eyes turned upward, the pulse imperceptible at the wrist, and the whole body relaxed; after two or three gasps he ceased to breathe. Every means was promptly used to restore the deceased, but without effect. The chloroform was obtained at Kent's, 91, John Street, and not exceeding three drachms was administered from a napkin. A portion of chloroform from the same phial had been administered the day before to a patient without any unfavourable effects. About ten minutes elapsed from the commencement of its administration before death took place. On making a post-mortem examination, twenty-four hours after death, I found the face less livid than before death; on examining the head, the brain and its membranes presented no other appearances than are seen in persons dying when in full health; the lungs were a good deal congested, and discharged, when cut, a large quantity of bloody serum; the heart was large, its ventricles and auricles were empty, its condition flabby, the substance of the left ventricle rather softer than natural; about half an ounce of a watery fluid was found in the pericardium; the viscera of the abdomen were healthy.'"

GURDON BUCK, M.D.,
Surgeon to the New York Hospital.

Drs. Kearney, Rogers, Buel, and Bathgate, testified to the proper use of the chloroform. Dr. R. has seen it administered a hundred times without any bad effects.

Dr. Parker, Professor of Surgery in New York, to whom I had written on the subject, gave me a statement confirmatory of the deposition of Dr. Buck.

Another fatal case of chloroform has this moment occurred, March 6th, in Boston. The following were the circumstances:—A young woman, Abby Pennock, 17 years old, finely constituted, came, a few weeks previous, to live as domestic in a highly respectable family. Being troubled with toothache and occasionally with pain in the side, she applied for medical advice. On a visit to her physician, she asked him for chloroform, and he gave her a few drops. She then took the phial, poured the liquid freely on her handkerchief, and inhaled it until fairly under its influence.

On the evening of March 6th she went out, and having had the toothache, used chloroform. After her return home she ate a good supper, and soon went to bed. In half an hour a young woman, who lodged in the same chamber, went to her room, and on entering, spoke to her, but receiving no answer, presumed she was asleep, said no more, and went to bed herself. She noticed that the window of the chamber had been opened, as she has since thought to take off the smell of the chloroform, and having no objection herself to its being so, she allowed it to remain open, although the temperature was below freezing.

The next morning when she arose, finding that Abby was not stirring, she did not attempt to rouse her, but dressed, and went about her business. As the latter did not appear, her room was visited about half past six A.M., and she was discovered in bed lifeless and cold. She lay on her left side with the knees drawn up, and all the limbs in a rigid state. Dr. Jeffries was immediately sent for, and very soon arrived.

On viewing the appearance of the body he perceived the left hand clenched over the mouth, and the right arm crossing the left. An examination of the left hand detected a handkerchief crowded in its hollow, which being removed, the fœtid odour of stale chloroform was perceived. Suspicion being excited, search was made around the room and in the drawers for a bottle containing the suspected liquid, but none was discovered. Afterwards, when the body was moved, a bottle of chloroform fell out of the bed. It was a two-ounce phial, and three fluid drachms of it had disappeared.

Dr. Jeffries proposed an examination of the body, and this being consented to, he called on Dr. J. B. S. Jackson, who performed it.

External appearance.—The body was livid over the whole of the left side, on which she had lain. The face and neck were swelled, so that the string of her night-cap produced a distinct indentation. The pupils of the eyes were slightly dilated. The thyroid gland was much enlarged.

Thorax.—The lungs were not much collapsed; both of them were congested, but the congestion in the right was bright-coloured, in fact bright vermilion; the left was congested throughout; the entrance to the larynx was inflamed, and covered with small ulcerations; the *heart* appeared like an empty pocket, being flaccid, and empty of blood; nothing was found in its cavities but a very small coagulum.

Head.—The brain was entirely free from congestion and from morbid appearances.

Abdomen.—The stomach contained a considerable quantity of food in a semi-digested state, and the lacteals were full of chyle. No morbid change existed in the mucous coat; there was no appearance of poisonous substance; the intestines were in a decomposing condition, quite remarkable, considering that she had been alive and on her feet the evening before; the *liver* was not altered; the *spleen* was congested; the left *kidney* was congested; the *uterus* exhibited a catamenial appearance.

Remarks.—The above statement was obtained from Dr. Jeffries, by the writer. Dr. J. said, that a minute account of the morbid appearances would soon be made public by Dr. Jackson, and the phenomena reported in the fullest manner. If there is any imperfection in the history, the pressure of circumstances will, it is hoped, excuse it.

To what has been stated above may be added, that there was reason to believe the chloroform was purchased on the evening it was taken; that it had been used during that evening at least once before the fatal application, and that the three drachms which had disappeared must therefore be divided between the two applications; that there is no reason to believe that any other article of a poisonous nature was employed; that there can be no reasonable doubt of the patient having died the evening before, and died instantaneously; that she did not die from suffocation, but of the effects of chloroform. She must have died instantaneously, because, if the dying state had been prolonged, the hands would have been removed from the mouth in all probability by spasmodic movements of the muscle; and she probably did not die of asphyxia, as the lungs were not so much congested as they generally are in cases of suffocation. And on the whole, the phenomena in this case agree with those presented in the other fatal cases of chloroform.

In considering what organ might be principally affected by the deleterious agent in producing the fatal symptoms, my first impression was that the lungs were primarily disordered, and that death arose from non-oxygenation of the blood. The suspended or struggling respiration, purple colour of the skin, irregularity of the pulse, muscular spasms, &c., led to this opinion. If it were the fact, we should find a great engorgement of the lungs, of the right side of the heart, and probably also of the brain. Now as to the lungs we find them engorged more or less in every case, but excessively engorged in four; and, on the whole, they do not present the degree of engorgement which accompanies asphyxia. The same may be said of the heart. As to the brain, the accumulation in its vascular system has been found to be for the most part very slight. The blood in every case where it is mentioned at all, was found in a fluid state. There does not, then, appear to be any morbid change uniformly exhibited in either of these organs which authorises us to consider the disturbance of such organ to be the immediate cause of death.

The facts which we have collected and compared, while they do not support the doctrine that death occurs from a visible alteration in any of these great organs, seem to leave us only the nervous system, independent of vascular action or congestion, as the seat of the sudden change produced by the rapid passage of the narcotic principle to the great nervous centres. This is, indeed, to be considered a mere hypothesis at present; but as the object of these remarks is altogether of a practical nature, I shall not undertake to examine the subject physiologically, in order to prove the truth of this hypothesis. The fluidity of the blood, in every case where the blood is mentioned at all, goes to show that the vitality had been suddenly destroyed by the action of a deleterious principle. The flaccid state of the heart, which appears in every case examined, affords another fact in favour of the same opinion.

In a large number of the fatal cases one fact at least is conspicuous, and that is, the suddenness with which the fatal phenomena occurred. In four cases death took place within a minute: in two, in two minutes; and in my patient, Mrs. H., five inspirations, requiring a few seconds only, produced symptoms which lasted a long time. When we compare these sudden effects of chloroform with those from its continued use in many cases of prolonged operations, it seems quite clear that the fatal issue is not a consequence of the quantity inhaled, nor yet of the time, but rather of the instantaneous violence of the impression.

An important objection to chloroform is the facility with which it may be abused. The highly concentrated state of the toxic principle, the convenience with which the substance may be transported, the absence of the penetrating and diffusible properties of ether, favour its use in an undiscoverable manner. Hence it has happened that many persons, of both sexes, and of all ages, have resorted to it, for the purpose of obtaining the pleasure of a temporary delirium. The number of individuals whom I have known to use it in this way is so considerable as to lead me to believe that those who employ it in secresy must be very great. Persons, therefore, who recommend chloroform for the purpose of preventing pain, or procuring a transient pleasure, must take into view the probability that the patient will resort to it afterwards without medical advice,—that the habit of taking it may thus be formed, and origin given to the most pernicious consequences.*

An English gentleman, Mr. Carruthers, was in the habit of using chloroform for relief from the asthma. He was an expert angler, and sometimes sat till a late hour arranging his hooks, and making artificial flies. In this position he was found one morning by his servant, apparently pursuing the occupation of the evening previous; but he was soon ascertained to be dead, while upon the table lay the handkerchief and chloroform. We have not heard of a post-mortem examination in this case.

A physician in New York, who had attained some distinction, and who suffered from mental trouble, resorted to the use of chloroform so frequently as ultimately to produce a delirium, during which he committed some extraordinary acts, and finally destroyed himself.

It is true that an objection may be raised against ether on the same grounds. This has been replied to, in the Remarks on Etherization, by the fact that the volatility of ether is so great as to reveal its use. The quantity required is also such as to make it much more difficult to conceal the employment.

A practical conclusion, then, from these cases which seems to me unquestionable is, that chloroform, containing the narcotic principle in a highly concentrated state, like many other powerful agents in the Materia Medica, although it may be employed in this state in some instances, yet in common practice should be used, if at all, in a diluted form. If this fact is admitted, we are naturally led to ask, whether we shall use it thus diluted, return to sulphuric ether, or whether there are any other narcotic, or, as they have been called, anæsthetic agents, which may advantageously be substituted.

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* This remark has been verified at the moment these sheets were correcting, by the case of a young woman in this city, who took chloroform for the relief of toothache, and fell a victim to its effects (vide Case X.)

Various such substitutes have been proposed; among them are the nitrous oxide gas, as employed by Dr. Wells, and different articles experimented on by a number of physiologists. None of these seem well calculated to be substitutes for chloroform and sulphuric ether.

On hearing of the first fatal cases of chloroform, the thought occurred to me of giving a more thorough trial to the chloric ether of commerce. This, as is well known, is the product of the distillation of alcohol and chloride of lime.* I had tried it formerly, as stated in my first publication, and now tried it a second time with great care, but without any narcotic effects.

After the preceding experiment I tried the first portion of the product of the distillation without purification, and without mixture with the residuum, or any additional preparation. The first person to whom this was administered was a patient of Dr. J. Mason Warren, suspected to have a stone in the bladder, who had been so very irritable that it was impossible to sound him satisfactorily. He inhaled freely from a sponge; in about four minutes went to sleep: the sound was at once introduced without any trouble, and a stone detected. Under the influence of the same preparation the lithotritic operation was performed; and after two or three applications the stone was removed. In four or five other cases of stone, one of them an oxalate of lime case, in which the calculus was very refractory, the patients were conducted safely and successfully through the lithotritic treatment, under the influence of chloric ether, by the same operator.

Among the subsequent cases in which this ether has been employed, I will only mention a single class, with a couple of interesting illustrations. The admirable effect of sulphuric ether in enabling us to break down the adhesions in joints stiffened by inflammation from fractures and other causes, has been stated in the Remarks on Etherization. Chloric ether has been used a great number of times for the same purpose, and with results equally favourable. About the beginning of February 1849, a young lady, who had fallen on the ice three weeks before, and broken the olecranon process of the ulna, was brought to me by her parents with a stiff elbow. Various efforts were made to move the fore on the upper arm, but the patient expressed so much pain it seemed necessary to desist. As she had not been allowed to move the arm at all, I recommended to her to go home, and bend the arm, or have it bent, every day, and thus to increase the motion as much as possible, and if she found that nothing was gained to come to me again in five days. At the end of the time indicated, she was brought, and I found that nothing had been accomplished in moving the joint. She was then etherized by Dr. Mason Warren to the point of physical insensibility, and I attempted to restore the natural motions of the arm by force. It was, however, impossible for me to accomplish it in this case. She was therefore etherized with the chloric ether two minutes longer, fell asleep, and then renewing my efforts, the adhesions and muscular contractions gave way with an audible crack. Two other etherizations were required to effect the restoration of the perfect movements of the limb.

A patient of mine, who had apparently undergone inflammation of the spinal marrow, with phenomena very curious, but which cannot properly be mentioned here, on recovering was found to have a false anchylosis in the right hip, a true anchylosis with dislocation in the left. Under the use of chloric ether, the anchylosis in the right hip was broken with a very loud crack. The left could not be at all moved. It was therefore resolved, in order to give him a fair trial, to employ pullies for breaking down the anchylosis, and reducing the dislocation. He was bled to nearly a pint; then, having used chloric ether many times before with excellent effect, it was employed; but the state of susceptibility was so altered, that both sulphuric ether and diluted chloroform were tried, the administration requiring nearly three quarters of an hour before he was narcotized. The pullies were applied for fifteen minutes, during which one of the cords was snapped and replaced. Efforts to move the limb were then made, but without accomplishing any motion of the os femoris on the os innominatum.

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* The term chloric ether has been used in this country to designate a solution of chloroform in alcohol, and also a substance of a very different nature, the properties of which have been fully examined by Dr. Simpson—namely, the chloride of olefiant gas, $C2,H2,Cl$. Dr. Warren here obviously refers to the alcoholic solution of chloroform, which has been found too stimulating in this country.—ED. GAZ.

As the dislocated left limb was inverted to such a degree that the left knee constantly impinged upon the back and inner part of the right, thus interfering in an embarrassing and painful way with its motions, and in fact disqualifying the patient from any active occupation, it was determined to saw through the upper part of the thigh bone, in order to admit of rotation of the limb outwards. This was happily accomplished on March 17th. Chloric ether, used at this time, narcotized the patient in five minutes, and he continued, with occasional applications of the sponge, in a state of total insensibility for ten minutes longer, during which the operation lasted.

[To be continued.]

CASE OF

ANÆSTHESIA AND PARALYSIS OF THE RIGHT SIDE OF THE FACE.

By W. R. Rogers, M.D.

J. W., æt. 27, a light porter in a respectable firm; sanguineous temperament, good complexion, robust habit, and of middle stature; born in the country, where he had lived up to the last three years. He came to London in September, 1846, and remained in perfect health until September of the following year, when an eruption made its appearance upon the head and face, which was, however, removed by suitable treatment. In December of the same year a similar eruption again showed itself: this was in like manner subdued by mild alterative aperients and bitters: but at the commencement of March, 1848, after having got very wet, he was attacked with giddiness, deep-seated and shooting pain in the right temple, with deafness and buzzing in the corresponding ear, in front of the cartilage of which was also great tenderness on pressure, and a puffiness of the cheek. These symptoms were accompanied by a gradually increasing anæsthesia of the right side of the face, which, after having extended to the utmost, reached from the middle line of the forehead, nose, and upper lip, backwards to the ear and ramus of the jaw, being limited above by the attachment of the temporal muscle and belly of the occipito-frontalis, and below by a line drawn horizontally backwards from the angle of the mouth; so that the lower lip, and that portion of the face corresponding to the body or base of the inferior maxilla, were entirely unaffected. The constitutional symptoms were those of high fever, shiverings, alternating with flushings of heat, dryness and heat of skin, cold extremities, full and quick pulse, tongue white and furred, with considerable thirst; urine scanty, and high-coloured. Six leeches were applied to the right temple; calomel, followed by a brisk cathartic; after which a blister was applied to the nape of the neck, stretching up to the right ear; salines were freely exhibited.—Low diet.

Under this treatment the violent and throbbing pain of the head and temple ceased, the buzzing in the ear diminished, and hearing began to return, as well as sensation gradually to the face. The puffiness visibly decreased. These good effects occurred within a week or ten days after the commencement of treatment. The patient, feeling himself much better, requested permission to go out for fresh air, being anxious to get strong, and return as soon as possible to his employment. Permission was granted, and he went out; but on calling the following day to visit my patient, I found a state of things which I had not anticipated. The pain in the temple had returned, which he described as most violent and deep-seated. The conjunctiva of the right eye was now greatly inflamed, but unaccompanied by the slightest sensation of pain; loss of motion was added to a return of the anæsthesia which he before complained of; still confined to the same limits. The mouth and nose were distinctly drawn to the left side; the upper eyelid could not be raised, and was glued to its fellow by thickened secretion: the tears rolled over the cheek; the right nostril was dry, and insensible to stimuli or odours, and felt to the patient as if stuffed. The right half of the palate was deficient in sensation, while the sensation, motion, and taste of the tongue remained unaffected. The loss of motion did not extend lower down the face than the boundary already mentioned as limiting the anæsthesia. The febrile symptoms also had returned. Six leeches were again applied to the temple, and an equal number to the eye, to arrest the conjunctivitis. A large blister was again applied to the nape of the neck. Chologogue purgatives were again administered, and the eye was ordered to be fomented with decoction of poppies.

Next day the pain in the head had much abated; there was less noise and buzzing in the ear, but the inflammation of the eye was not lessened; the anæsthesia and paralysis still persisted; and, notwithstanding the existence of active inflammation in the eye, no sensation had returned to it. The sclerotic and iris were not implicated up to this period, the latter being responsive to the stimulus of light. Three leeches were re-applied to the eye, and a blister behind the ear,—saline purgatives and diuretics continued. Next day the inflammation of the eye appeared less active; the leeches and fomentations were ordered to be continued, with the constitutional treatment. The passage to the right nostril remained closed and dry: for some days longer this treatment was persevered in, but little progress was made; so that I was induced to drop a weak solution of nitrate of silver into the eye. This application increased the inflammation, and immediately a slight haze appeared on the cornea, which, in a day or two, spread and formed an ulcer, the lower margin of which was tinged yellow; and, although the leeches, fomentations, and blisters were continued, no good effect appeared to be produced; the anæsthesia and paralysis still remaining, although somewhat lessened. The eye daily lost ground, the deeper tissues becoming affected; the iris being partially involved in the inflammatory action: even before the inflammation had thus extended mercury was administered three times a day, and was pushed forward immediately on the iris becoming implicated, and soon evidenced its presence in the system by the fœtor of the breath. Iodide of potash, combined with a bitter tonic, was employed, with full diet, to support the system, and Dover's powder at night to procure sleep. I now requested my friend Mr. Quain to see the patient with me, who recommended a continuance of the treatment already adopted, especially the mercurial part. At a subsequent visit, as the inflammation was wholly unsubdued, cupping was advised, but it was attended by no apparent beneficial result. During this time the mercury never caused salivation, though its fœtor was to be found in the breath; under its use sensation began to return, and the paralysis was much lessened; the traction of the mouth and nose to the opposite side being less perceptible. The eye still continued inflamed, and a puriform fluid, in three distinct spots, had appeared between the layers of the cornea, which gradually coalesced and filled up two-thirds of it. Vision was now wholly lost: the mercury was immediately discontinued, and, in its place, quinine and opium were exhibited. The fomentations, leeches, and iodide of potassium, were persevered in. About this time the patient began to feel a dull pain in the brow, and could slightly lift the upper lid. A solution of watery extract of opium was now dropped into the eye twice daily, which, after some days, began to be felt heating to it. After three weeks' perseverance, the puriform deposit, which was never surgically interfered with, discharged itself externally, the iris becoming more natural in colour. The inflammation, which was so long intractable while the anæsthesia and paralysis remained, with returning sensation of the eye appeared to become daily more amenable to treatment, and lessened gradually;* the cornea becoming less hazy, the pupil less angular, though it has never returned to its natural condition. For some time back the patient's health was much improved by the tonic treatment, but during his recovery, at three several times, fresh attacks of slight congestion occurred in consequence of exposures; these were, however, subdued by fomentations and solution of opium. His illness, up to complete recovery, lasted ten weeks. He is at present in perfect health; his sight, for which I had long entertained serious fears, has been wonderfully restored, and the opacity of the cornea is almost entirely removed, though the iris, as I before mentioned, has not regained its natural size or form.

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* This fact has been noted by Bellingeri, Magendie, Bell, &c.

With reference to the pathology of the case, it may be asked—1st, could the eruption which twice occurred about the head and face have in any way predisposed to the subsequent affection? 2nd, what were the pathological conditions, centric or eccentric, giving rise to the anæsthesia, which evidently affected all the branches of first and second divisions, and the temporo-auricular branch of the third division of the fifth? And 3rdly, what were those giving rise to the paralysis of the muscles supplied by the superior division of the seventh nerve accompanying the relapse of the anæsthesia with inflammation of the eye, which had not previously existed? From a consideration of the symptoms indicating the particular nerve-trunks especially involved in the morbid action, it would appear more reasonable to suppose that the latter was eccentric rather than centric; although the writer is aware that an inflammatory action may be set up in one part or division of a nerve as it emerges from the brain, giving rise to paralysis or anæsthesia, as the case may be, in the parts to which it is distributed. Yet as the inflammation in the case just cited was diffusive in its character, it does not seem probable that the fibres which ultimately emerge in front of the ear, as the temporo-auricular nerve, should be so wonderfully singled out from the other nerve fasciculi composing the lower division of the inferior maxillary nerve, by an inflammation having a central situation, and engaging the origin of the fifth nerve. And again, it is unreasonable to suppose that the common trunk of the seventh nerve should be affected centrically, and only give rise to paralysis of those muscles to which its upper division was supplied. Besides, the acute pain felt on pressing the parts in front of the cartilages of the ear, where a slight induration or kernel remains still perceptible to the touch, would further support the conjecture of an eccentric origin to the symptoms; for the temporo-auricular nerve in passing to the surface is enveloped by a portion of the parotid gland in the back part of the glenoid cavity, and some lymphatic glands lie in the immediate vicinity of the upper division of the fascial nerve, so that it would be easy to imagine that inflammation of those parts would involve the nerves just mentioned, which are besides connected with each other by distinct nervous twigs; and an extension of the morbid action, inwards and upwards, by the cellular tissue in the zygomatic and pterygo maxillary fossæ, might engage—1st, the superior maxillary nerve and Meckel's ganglion; and next, the ophthalmic nerve, which, although it passes directly from the cranium to the orbit, nevertheless is uncovered by bone, where it lies over the pterygo-maxillary fossa. The external pterygoid muscle forming a septum or barrier between the inferior maxillary nerve, and the other divisions of the fifth preventing the inward progress of the inflammation in that direction, on this supposition would fully account for the immunity of the inferior maxillary nerve, admitting that its temporo-auricular branch was superficially engaged.

There was an interesting circumstance which was not mentioned in detailing the case—namely, a loss of motion in the levator palpebræ superioris, which resulted from the inflammatory action, causing pressure to be exerted on the filaments of the third nerve supplying the muscle conjoined with the loss of conjunctival sensibility. A precisely similar case is narrated by Sir Charles Bell, in his splendid work on the Nervous System. It must not be supposed that the inflammation of the eye in this case depended on evaporation of the exposed conjunctiva in consequence of the paralysis preventing the closure of the orbicular sphincter. It arose synchronously with the paralysis from direct exposure to cold at the relapse. Inflammation of the eye attending paralysis of the portio dura is very gradual in its accession.

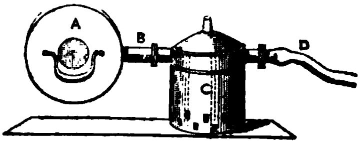
In similar cases to the preceding, it becomes of some moment, with regard to prognosis, to be able to diagnose its centric or excentric origin; whether it can be traced to a simple cold producing inflammation, as in the present case; or whether it arises from a tumor or other cause pressing upon the origin of the nerve, or from disorganization in some part of its course, either within or without the cranium. I need not say that the latter class of cases are almost hopeless as to treatment.

70, Mortimer Street, Cavendish Square,
April 1849.

A CHEAP APPARATUS FOR APPLYING HEATED AIR TO THE BODY IN CASES OF CHOLERA AND ASPHYXIA.

By Stewart Clark,
Late Surgeon of the Prince of Wales East Indiaman.

The sketch represents an apparatus for supplying heated atmospheric air to the surface of the body in cholera, and other diseases requiring the application of external warmth.



A. A double bellows (something of the shape, and worked like a concertino) attached by an elastic tube, B, to a metallic cylinder, C, the top of which contains an air-chamber heated by a spirit lamp, giving heat sufficient to render the walls of the chamber red hot in three minutes. D. An elastic tube for conducting the heated air under the bed-clothes, or to the surface of the body, in any other way which may be useful.

I believe all medical men who have seen much of cholera agree that dry external warmth is one of the best remedies, and ought to be applied as quickly as possible. Now this can be accomplished most completely, and in a few minutes, by the apparatus in question.

I also consider that it might be used with great benefit in cases of asphyxia from drowning. Let the body be wrapped in blankets, and the heated air introduced at the feet, which may be continued uninterruptedly at any temperature, and for any length of time, without interfering with other means, such as friction, or the most important object of all—artificial respiration.

The apparatus was constructed, at my request, by Mr. Ince, of the firm of Ince and North, of Blackwall, and he tells me that it can be made for a few shillings.

Blackwall, April 4, 1849.

MEDICAL GAZETTE.

FRIDAY, APRIL 27, 1849.

What is a nuisance under the Public Health Act? We shall be glad if any of our readers can help us to an unassailable definition. Law books tell us that a nuisance is an offence against the public, by doing a thing which tends to the annoyance of the community. Thus injurious and offensive trades and manufactures, which, when hurtful to individuals, are actionable, are, *when detrimental to the public health* or convenience, punishable by public prosecution. As special instances, we are told,—"that the keeping of hogs in a city or market-town is indictable as a common nuisance; and from the offensive effluvia from tallow-melters, they would doubtless fall under the same denomination." But it is essential in these cases, that they (the hogs) should be kept in such inconvenient parts of the town or city, that they must unavoidably annoy the neighbourhood, and impair the enjoyment of life or property.

The mode and degree in which the keeping of hogs or the melting of tallow impairs the enjoyment of life or property, is one of those difficult problems which no human ingenuity can solve. The "hog question" has, however, in a recent case, been summarily decided by a Police magistrate. The 59th section of the Public Health Act does not pronounce the keeping of swine in a city or market-town to be a nuisance; but it visits with a penalty those who keep "any swine or pig-stye in a dwelling-house, *or so as to be a nuisance*," thereby leaving the question open to debate. In the case to which we have above referred, the medical and general evidence was as usual very conflicting, and the magistrate ultimately decided in favour of the pigs, after a visit and personal inspection. The tallow-melting case is yet in abeyance. The 64th section of the act does not prohibit this trade, where already established; but it will not allow it, or other offensive trades therein described, to be carried on in any new establishment. The remedy for a nuisance is left open; and in order to succeed in an indictment, it must be proved that tallow-melting is detrimental to the health of those who live in the neighbourhood. Medical practitioners who have never been concerned in a "nuisance case," have but little idea of the difficulty of proving "detriment to health." What appears quite simple before going into Court, becomes, as the case proceeds, a most complicated affair. Counsel for defendant will produce any given number of medical witnesses, provided with an array of statistical tables, proving to a minute fraction that tallow-melters are remarkable for their longevity; that they have large families with good appetites; that the diseases which affect them are few, and by no means so fatal as they are among those who work at inodorous trades; that the deaths are not more than one and a quarter per cent., and that, if it were necessary to trouble the Court, some of the oldest inhabitants of the parish could be produced as witnesses, to prove that they lived close to the premises, and had always enjoyed excellent health, &c. With such an accumulation of evidence that admits of no immediate contradiction, the so-called nuisance may be proved to be actually beneficial to the public; and the medical witnesses for the prosecution may leave the Court with the conviction that there must be something wrong either in the figures or the facts, but still unable to point out the error.

In this way, the keeping of swine, the making of bricks, the melting of tallow, the slaughtering of cattle, and the collecting in laystalls covering one or two acres of ground, of dung and other refuse for the manufacture of patent manure,—so far from being detrimental to health, have all been proved to be trades of a sanitary kind, —offensive to the nose, certainly—but working, at the same time, some marvellous change in the atmosphere, by which disease is averted and life is actually prolonged! We admire the courage and skill, medical and legal, with which these abominable nuisances are defended: the gentlemen interested in their maintenance are not contented with proving simply that they are *not* detrimental to health, —they go a step beyond, and contrive to satisfy the Court and jury, by the aid of chemistry, statistics, and other sciences, that they are decidedly beneficial to health!

A case showing an unusual degree of ingenuity in this species of defence, was recently tried before Mr. Sergeant Adams, at the Middlesex Sessions. This was an indictment in which the defendant was charged with creating a nuisance in Westminster by the boiling of bones.

> "The sole question was, whether or not such a process as boiling animal matter in a putrid state, was a public nuisance. It was contended by the parish that it was not only a nuisance, but that it was extremely prejudicial to the public health. On the other hand, the defendant had stated that he was in a position to prove *by the testimony of some of the most scientific men of the day*, as well as by other evidence, that whatever effluvium there was, which escaped into the air from the bone-coppers, so far from being injurious to health, *was quite the contrary, inasmuch as it had the effect of neutralizing the noisome vapour arising from the gasworks which were in the immediate vicinity!*"

We should be glad to know, had the case proceeded, what chance the parish would have had in proving their statement that bone-boiling was detrimental to health, when there was arrayed against them "the testimony of some of the most scientific men of the day" (whose names did not transpire), which would show that the vapours of decomposed bones, so far from being injurious to health, were *quite the contrary!* The reason assigned for this strong opinion, is not the least remarkable feature of the case. There are, it appears, in the neighbourhood, gas-works which evolve a noisome vapour; and the scientific hypothesis of the defendants is, that one nuisance counteracts another, just as two negatives make an affirmative!

The jury in this instance were not required to give a verdict, as the learned judge, at the request of both parties, kindly undertook to inspect the premises personally, and to decide, by the aid of his own nose and eyes, whether the trade, as carried on by the defendant, was a nuisance; and if so, to determine in what way it might be abated. This may appear a fair reference of the question; but in order to render it so, the defendant should undertake to boil his maximum of putrefied bones at the time of the learned judge's visit!

There is one plan of suppressing these nuisances which appears to have escaped the attention of our sanitary legislators. The "scientific men of the day," the learned counsel, the judge and the jury, are in the habit of hearing evidence and deciding these cases in a well-ventilated court. Let the *venue* be changed,—let every indictment for a nuisance be tried on the spot where it is perpetrated, and while the alleged offensive trade is in full operation. A temporary court might be easily selected or constructed for the purpose. If this plan were fairly carried out, we venture to predict that the testimony of "the scientific men of the day" would avail little against the impressions produced on the olfactory organs of the jury.

There is something, in our opinion, disgraceful in the fact, that while to the medical profession is justly assigned the credit of striving to improve the healthy condition of the poorer classes, and the promotion of sanitary legislation, there is no case of nuisance, however bad, which does not find medical men among its defenders. We do not say that a man who carries on a trade alleged to be offensive is to be deprived of his living for the want of proper protection; but cases of this description are, so far as we know, never made the subject of an indictment. It is the wealthy offender, the proprietor of the concentrated excretions of the inhabitants of half a dozen parishes, the bone and blood-boiler, or the fellmonger, who, by his purse, safely sets the law at defiance. While poisoning the atmosphere of a whole parish, he can for a proper consideration procure any amount of medical evidence to *prove* that his occupation, "so far from being injurious to health, is quite the contrary,"—*i. e.* in the highest degree beneficial! Such an evil to the public must exist, so long as these nuisance-mongers are permitted to select their own scientific witnesses. They will take care to produce no witness who will not speak strongly in their favour.

We have received from a correspondent, who has been a subscriber to this journal from its commencement, a letter in reference to the non-publication of the General Index. We regret that we have not his permission to publish this letter, as it would show in a forcible light, the great value of an

Index to the possessors of the first series of this journal. The writer informs us that he spent "an hour of valuable time in searching for what five minutes with an index would have found with much better effect." We do not doubt it; and we can only express our surprise that our subscribers have not come forward more readily to support the publishers in an undertaking which was only set on foot by an application from some among themselves. We have now for upwards of a year inserted in each number of the journal a notice to the effect that the Index would be commenced so soon as the names of *five hundred subscribers* had been obtained. We are informed that not more than one hundred names have as yet been received.

The subscribers to the first series of this journal, must perceive that a General Index will be useful only to themselves. It is not like a work on a professional subject, which will find purchasers in the profession; and which may therefore justify a certain degree of risk in its publication. On the contrary, it is like the catalogue of a Library, which is serviceable only to those who have access to the books. Hence has arisen the necessity of delaying the commencement of such a task until the number of names received was sufficient to protect the undertaking from the certainty of a loss. None of our subscribers can now plead ignorance of the willingness of the publishers to bring out a General Index. We must therefore assume that the *majority* of those who possess the first series are quite indifferent on the subject; and that they prefer giving themselves occasionally some hours' trouble in searching for what they require, to having at hand in one complete volume, the ready means of reference. We regret the existence of this indifference as much as those enthusiastic correspondents who occasionally send us stimulating letters on the subject. We see no remedy for it, but that they should inoculate others with their own feelings, and stir up those apathetic recruits who are probably waiting with the intention of becoming purchasers of the volume after it has been published. For reasons already assigned, it will be perceived that in adopting this expectant plan they are substantially defeating the project.

We have now to announce, that unless the requisite number of names be forwarded to the printers of this Journal before the termination of the present volume in June next, the plan of publishing a General Index will be abandoned. We shall be compelled to take this want of support as a conclusive proof that the majority of our subscribers are unwilling to contribute to its publication.

ENORMOUS OVARIAN DISEASE.

Dr. Jackson had lately examined a case of this disease, remarkable for the size of the tumor. The patient was under the care of Dr. Hayward. She was unmarried, and aged 27 years; her health had been failing for a couple of years; the abdomen had been observed increasing in size within the space of ten months. The catamenia had ceased within three or four months. The only suffering was from distension. She had continued about house till within three days of her death, which was sudden. The right ovary, which was the one diseased, was found almost universally adherent, presenting myriads of cysts, the largest being two-thirds the size of a water-pail; two or three the size of an adult head: the contents being more or less glutinous in all: in the largest like thick veal broth, and in some much thinner; in very many like white of egg, and in others like thick glue. The colour of the contents generally more or less red: in some dark red, in others brownish, in very many of a pearly opalescence, and in not a few pellucid. No encephaloid or other malignant appearance. No fat or hair. The uterus externally was normal. The left ovary was two and a half times its natural size, presenting one cyst containing a glairy fluid. The liver and intestines were pushed upwards. The tumor and its contents weighed eighty nine pounds. — *American Journal of Medical Sciences*, January 1849.

THE

LUMLEIAN LECTURES FOR 1849.

Delivered at the Royal College of Physicians, London,

By R. B. Todd, M.D. F.R.S.

ON THE PATHOLOGY AND TREATMENT OF CONVULSIVE DISEASES.

Lecture II.

Are the muscles or the nerves primarily affected in convulsive diseases? Certain postulates respecting the Nervous system. Pathology of Chorea—proofs that the nervous system is primarily affected in it—the brain the seat of morbid action—influence of sleep—nature of the morbid process—a state of enfeebled and depraved nutrition. Chorea a humoral disease. Conclusions respecting its pathology. Treatment of Chorea. Pathology of Tetanic convulsive diseases—particular states of the blood favour the development of Tetanus. Pathology of Trismus nascentium and of Laryngismus. Dr. M. Hall's views. Treatment of Tetanus—use of cold, and of chloroform. Treatment of Trismus, and of Laryngismus.

Mr. President and Gentlemen,—Having in my first lecture briefly laid before you the prominent facts of the clinical history of the principal convulsive diseases with which we are familiar in this country, I shall now proceed to inquire whether, by the aid of physiology in conjunction with our knowledge of the clinical phenomena, we can form any reasonable view of the intimate nature of the pathology of these diseases.

It must be borne in mind that a disturbed state of the muscular system, although a prominent symptom of these maladies, and most commonly *the* prominent symptom, is nevertheless in many of them accompanied with other signs which cannot be referred to the muscular system,—such as disturbed sensations, weakness of mind, delirium or mania, loss of consciousness, coma; but that in others, such as the tetanic convulsions, while the obvious phenomena are confined to the muscular system alone, the convulsions occur with a harmony and symmetry which denote, at least, that the common bond of union of the muscular system, that upon which depends the association of the movements of its various portions—namely, the nervous system—must be in some way or other involved in the disease. Why in Tetanus are the muscles of both sides of the body equally affected? Why is Laryngismus is the muscular convulsion limited in many instances to the laryngeal muscles, extending in some to those of the neck and back? Why in epilepsy and chorea have you an affection not only limited to certain muscles, but exhibiting, as regards the character of the convulsion, essentially different features from each other, as well as from those of Tetanus?

It thus becomes a preliminary point in our investigation to determine whether in these various classes of disease the primary and essential seat of morbid action is in the muscular or in the nervous systems,—whether the morbid phenomena of the muscular system be dependent on certain disturbances of the nervous system,—or whether the muscular convulsions are primary, and the disturbed state of the nervous system consecutive and dependent on them,—or whether, in fine, the two systems are affected by one common cause, creating simultaneously disturbances in each, which predominate sometimes in one, sometimes in the other.

And let me here remark, that although we are much more accustomed to see the muscular system affected by changes originating in the nervous system, it is by no means unreasonable, nor inconsistent with fact, to affirm that changes originating in the muscular system may affect the nervous system.

Muscle and nerve generate each its proper force; and experiment teaches us that, while the nervous force ordinarily is the excitant of the muscular force, the latter may excite the former in a similar way. This important point in physiology was first demonstrated by my distinguished friend Matteucci, of Pisa, whose researches on electro-physiology have placed him in the highest rank of natural philosophers.

Matteucci's experiments show that a muscle during its contraction evolves a force which acts upon a nerve brought into contact with it just as a galvanic current would do, causing the muscles which that nerve supplies to contract instantly. Now, if the muscles of a limb be thrown from some cause into powerful contraction, it is not unreasonable to suppose that the muscular force thus evolved may excite a corresponding evolution of nervous force, which in its turn may create a fresh evolution of muscular force, and thus by successive reactions, great disturbance of both the muscular and the nervous system may be kept up until both forces shall become weakened or exhausted.

In the present state of science we cannot fix on any cause not resident in the nervous system, which would excite extensively active movements of the muscular system *before* the nervous system,—such, for instance, as would occur in an epileptic convulsion. The only way in which such excitation of the muscular system could be produced, would be through the blood. Now a stimulus operating through the blood directly upon the muscles would be very unlikely to produce active contractions alternating with relaxations, such as occur in epileptic convulsions; on the contrary, it would give rise to permanent or tetanic contractions. The cramps with which the muscles of a limb are affected just prior to gout fixing itself in the joints, might be taken as an example of such a contraction induced in muscle by a morbid excitant conveyed to it by the blood; but even these, although often severe and extremely painful, are very partial. Yet I confess that this explanation of a phenomenon so simple as that of cramp is rather far-fetched; and this becomes at once apparent, when we reflect that a stimulus operating upon a nerve is a much more effective excitant than one operating directly upon a muscle. Take, for example, the best stimulus of muscular contraction, the galvanic force,—the contractions excited by passing a galvanic current through the twentieth part of an inch of the main nerve of a limb are much more powerful than those developed by the direct application of the galvanic power to the muscles themselves.

The argument, then, may be thus briefly stated:—We know by experiment that a cause operating upon a very small portion of the nervous system, may produce considerable muscular disturbance, not of one, but of several muscles; but that the same cause, acting on the muscular system directly, is much less effective, nor does such a stimulus excite *several* muscles by acting only upon one.

Is it not, then, going too far for the explanation of such a phenomenon as *muscular cramp*, to pass by the nerve, and to limit the influence of the cause to the muscle itself?

Is not this argument alone sufficient to direct us to search first in the nervous system for the immediate exciting cause of the muscular convulsions? Nor is there any reason why both systems should not be influenced by the same excitant, which, even though it were more especially accumulated upon the muscular system, would, in all probability, act primarily and most effectively on the nerves, and *through them* on the muscles, which, from their already excited state, would respond the more readily to this stimulus.

This is probably the case in poisoning by strychnine, one of those energetic substances which, if introduced into the blood in only a very minute quantity, seems to multiply itself[*]; thus to become diffused with extraordinary rapidity through the blood, affecting the two great tissues which are mainly concerned in the manifestation of the vital forces,—muscle and nerve,—but evincing a greater affinity for the latter than the former, and therefore acting with greatest energy upon it.

I have felt it necessary to deal with this point thus early in our discussion of the pathology of convulsive diseases, in order that we might, by the elimination of a question which more or less encumbered the problem proposed, attend exclusively to inquiring into the nature and situation of the changes in the nervous system which give rise to the clinical phenomena of the convulsive diseases already referred to, of which the convulsed state of the muscles is only one.

I do not pretend to have exhausted this question, nor to have answered all the arguments stated with great perspicuity and ability by a distinguished Fellow of this College, Dr. J. A. Wilson, of St. George's Hospital. All that I have said goes only to show that the advocates of the muscular doctrine are so far unphilosophical in their mode of procedure, as they neglect the more simple and obvious explanation of the phenomena, and adopt a more complicated and obscure method.

In considering the share which the nervous system takes in the development of the clinical phenomena of convulsive affections, I must ask your assent to certain propositions respecting the mode of action of the nervous system in health, which the present state of knowledge warrants us in assuming to be proved.

1. That the nervous system, accumulated in masses, and spreading by its nerves throughout the body, mingling with the proximate elements of the various tissues, consists chiefly of a proximate element, of complex composition—namely, albumen, in combination with phosphorus and certain fatty substances, all well suited to the maintenance of constant and lively chemical action.

2. That this material is developed in two forms,—the vesicular or grey nervous matter, the fibrous or white,—and that the combination of these two different kinds of nervous matter, differing probably both in chemical composition, and in the form of their elementary parts, but more strikingly

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[*] Or it is not unlikely that strychnine, prussic acid, and certain other substances remarkable for the *rapidity* as well as the energy of their action, may immediately on their introduction into the blood assume the gaseous form which is highly favourable to rapid diffusion.

different in the one than in the other, takes place in the masses called nervous centres.

3. That at the points of junction or of intermingling of these two forms of nervous matter, blood is very freely supplied—very much more freely than where the fibrous matter exists alone. At these points there is generated constantly and unceasingly a force, which in its nature resembles very closely the galvanic force, or current electricity, as developed in the galvanic battery, or the magneto electric machine. Adopting the language of the illustrious Faraday, which expresses with clearness and precision the fundamental phenomena of the electric force, we may call the nervous power a polar force, generated in the centres, and propagated by the rapid polarisation of the neighbouring particles in various directions. The mode of generation of this force, the velocity with which it is transmitted to distant parts of the body, the beautiful provisions adopted for its insulation, have long attracted the notice of physiologists, and have led many to adopt the notion of its identity with electricity. But there are ample grounds for the opinion, that, although nearly allied to electricity, it differs from, and is probably a higher relation of force than that power.

4. The provision made for the generation of this force has an interesting relation to the conditions whereby the galvanic current is generated in the battery. Two dissimilar forms of nervous matter, both bedewed by the same blood, represent the zinc and copper, with the intervening electrolyte of the battery; and as the activity of the battery, and the energy of the galvanic force, depend on the amount of chemical action between the fluid, which is interposed between the metals and one of them, so the activity of the nutrient or chemical changes in the nervous centres determines the degree of development and vigour of the nervous force. And as in the galvanic battery we look to the nature of the metals as well as to that of the interposed fluid, to enable us to judge of the probable quantity and quality of the force generated; so, in the nervous battery, if I may so speak, we must look to the nature of the nervous matter of both kinds, and to the quantity and quality of the blood, to determine the amount and energy of the nervous force developed. Hence we may fairly assume that while the development of the nervous force is much influenced primarily by the nature of the nervous matter, it likewise is greatly dependent on the quantity, but more especially on the *quality* of the blood.

5. That the brain and spinal cord (and I beg to state that I use these terms to signify respectively the intra-cranial and intra-spinal nervous mass), as the great centres of the nervous system — the great nervous battery of the body—show distinctly a division into two portions: one in which nerves are implanted; the other which has no immediate connection with nerves, and communicates with them only through the medium of the former part. Thus, in the brain, the hemispheres, the corpora striata, the optic thalamus, the tubercula quadrigemina, and the large mass of vesicular matter connected with them and the cerebellum, have no immediate connection with nerves—no nerve is implanted in any one of these centres. The functions of these centres are all of a mental nature,—either the development of intellectual change, or the exercise of volition, or perception, or emotion, or the balancing and co-ordinating of movements,—and they exercise a control over the various segments of that portion of the cerebro-spinal centre in which nerves are implanted through commissural fibres which pass from them to the various segments of that centre. That part of the cerebro-spinal axis in which nerves are implanted,—which was fully recognised by the distinguished Prochaska, and by him designated the *sensorium commune*—this part is in itself incapable of originating any nervous action, except in virtue of some physical change in it: it cannot develope any mental action except in obedience to a stimulus from some of those centres already mentioned as belonging to the encephalon. This part extends from the upper part of the crura cerebri to the extremity of the spinal cord, and all its actions are physical, unless when excited and guided by any of the encephalic centres. It is the centre of all those reflex actions which take place through the spinal or encephalic nerves. This part corresponds to the true spinal cord of Dr. Marshall Hall, who, however, recognises in it two sets of fibres—one which does not pass beyond it, and another which extends from the various segments up into the brain, and which, according to this author, would establish a direct communication between the brain and the nerves. To this latter doctrine, however, there are many and fatal objections.

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Having stated these postulates, I shall now proceed to inquire how the phenomena of several forms of convulsive diseases may be explained.

In the choreic affections it may well be inquired, first, whether the parts affected primarily are the nervous or the muscular system.

To this I answer at once, undoubtedly the nervous system; but I hope to show that in all these cases the muscular system participates in a depraved nutrition, which renders it more prone to sympathise with the irregular motions of the nervous system.

That the nervous system is primarily affected in chorea, appears to me clearly established, 1st, by the fact that the most common exciting cause of chorea is *fright*, or strong mental emotion. Thus in one of my cases, the patient, a girl of 19 years of age, was rudely accosted and laid hold of in the street by a person under the garb of a gentleman, and she became greatly alarmed, and escaped to the house of a relation. Next morning the symptoms of chorea showed themselves. Fright would act upon the nerves,—not upon the muscles. Grief also will induce chorea. A little girl in King's College Hospital, a veritable "Tilly Slowboy," experienced great grief at the loss of a child to whose care she was devoted. A few days afterwards chorea showed itself.

These mental causes do not act primarily upon the muscles, but upon the nervous centres and the nerves; and so frequently do mental causes give rise to chorea, that Rufz, in investigating 18 cases, traced the origin of 11 of them to fright.

2. In chorea, the nervous system is obviously peculiarly excitable. Choreic patients are much more agitated in the presence of others, than if left to themselves. Of this we have abundant exemplification in hospital practice. When the physician approaches the bed of a patient with chorea, accompanied by a crowd of students, the movements become greatly augmented, and continue so until the cause of excitement has been removed.

This view obtains further confirmation from the fact that we can explain the various phenomena of chorea much more distinctly by referring them to a primary morbid disturbance of the nervous system.

Admitting, then, that there is good ground for the belief that the nervous system is primarily affected in chorea, what portion of that system can we assign as the more special seat of the disturbed action? Is it in the spinal cord, or in the brain?—in that part in which the nerves are implanted, or in that which does not receive nerves?

All evidence tends to show that the part of the nervous system more especially affected in chorea is the *brain*. The hemiplegic character of partial chorea denotes that the disease is of cerebral origin; that the morbid process is most active somewhere above the decussation of the anterior pyramids. Were the spinal cord the seat of disease, you would find commonly that the disorder of movement affected both sides of the body.

Again, its frequent origin from a mental cause points to the brain as its seat. It seems in the highest degree probable that emotions of the mind affect that part of the brain which is most nearly connected with the points of implantation of the auditory and optic nerves—the channels through which emotional excitement is so frequently produced. This part was long ago pointed out by our celebrated Willis as being the corpora quadrigemina, and the large mass of nervous matter which constitutes the greatest part of the mesocephale, a centre which forms the common bond of union between the hemispheres of the brain above, the medulla oblongata below, and the cerebellum behind.

An affection of this part of the brain may, from its extensive connections, produce all the phenomena of chorea, either partial or general: partial, if the morbid action be on one side, as is so often the case in cerebral affections, when the muscular disturbance will be on the opposite side; general, when the affection is on both sides; and in the cases of extensive and acute chorea, the parts involved would not be limited to the centre of emotion, but would extend to the cerebellum, giving rise to the disturbance of the locomotive and co-ordinating powers; and, on the other hand, it would involve the corpora striata and optic thalami, and through them the hemispheres impairing voluntary power and sensibility, and contributing to that imbecility which frequently accompanies chorea of long duration.

The readiness with which sleep controls the choreic convulsions may be adduced as a further indication that this disease has its seat in the brain: sound sleep is undoubtedly a peculiar affection of the brain,—a state in which the particles of that organ seem to assume a condition of quiescence, which contrasts remarkably with that unceasing, ever active change, of which it, more than any other part of the body, is the seat. This state, whatever it be, is incompatible with that which gives rise to the choreic convulsions; and hence the moment that sleep steals over the patient, and overwhelms his senses, the movements of the limbs, however active, cease, but return immediately the state of sleep has withdrawn.

I would remark here that this fact of the influence of sleep in controlling the movements of chorea, tells strongly not only against the view which localizes the morbid process of chorea in the spinal cord, but also against the doctrine which affirms the existence of a certain antagonism between the spinal cord and the brain. Were the spinal cord the seat of chorea, and did such an antagonism as I have referred to exist, the state of sleep would be the signal for the immediate development of increased and more active movements, and waking would rather tend to control these movements by the renewal of the activity of the brain.

And now we may inquire, what is the nature of the morbid process upon which the development of chorea depends?

With reference to this inquiry, we have the negative evidence of morbid anatomy that the morbid process in the brain is not such as to produce lesions recognisable by our means of observation; and we have the positive evidence of clinical observation that the disturbance which it produces easily admits of repair by natural means, or may be completely controlled by sleep.

If, with these facts, we consider the nature of the movements themselves, which are precisely those of an asthenic state, combined perhaps with some irritation, we get some further insight into the choreic morbid process. The movements are not unlike those which we observe under other circumstances of great debility, and when general nutrition is impaired,—the subsultus of typhus—the paralytic shaking of old age—the tremblings of the habitual drunkard. In all these cases the development of the nervous force is materially impaired—the material of the nervous battery is nearly exhausted—the exciting fluid is weakened; and hence you have a feeble nervous force irregularly developed.

And the general history of the patients who suffer from chorea abundantly confirms the view that the nutrition of the brain, and, indeed, of the whole nervous system, must be impaired. They are ill-nourished, weakly persons, often badly clad, with a poor and pale blood, more or less infected with the matter of scrofula, or of rheumatism, or perhaps with some morbid matter peculiar to chorea itself, or generated in the system by a depraved primary assimilation.

And, looking to the state of the muscles themselves, we cannot pronounce them to be in a healthy state. In choreic patients the whole muscular system is in a more or less soft and flabby condition; and, if you compress the affected muscles, you do not find the firm resistance of a muscle contracting with its normal vigour, but rather that which indicates that the muscle acts with feebleness, and is incapable of perfectly developing the muscular force.

But some one will ask, if the phenomena of chorea are in any way dependent on a depraved and poisoned state of blood, how comes it that they are so frequently localized? This localization of chorea to one side of the body, or even to one limb, or to the muscles of the tongue, is by no means inconsistent with what we know of the laws of action of morbid poisons. Witness the fixation of the syphilitic poison to the skin and pericsteum,—of the scarlet fever poison to the tonsils and lymphatic glands,—of measles to the lungs,—of cholera to the gastro-intestinal mucous membranes,—and look at the morbid localization of the matter of gout, as well as of that of rheumatism, even in cases where the blood is largely charged with it. It in no degree militates against the humoral view of the pathology of gout, that the morbid matter selects the great toe as its favourite locality; nor against a similar view of the pathology of rheumatism, that its morbid poison is prone to attack the heart.

I have now, I hope, said enough to justify me in drawing the following conclusions respecting the pathology of chorea:—

1. That chorea is a disease occurring at a time when the nutrition of the brain is passing as it were through a state of transition, from that of infancy or very early childhood, to that of the adult period, when that organ is peculiarly prone to suffer from mental shock, or other causes of disturbance of the system, and more especially when the blood is in an unhealthy state, deficient in some of its staminal principles, or containing some morbid element.

2. That the part of the brain mainly affected is the centre of emotion, but that the extent to which it suffers is sometimes limited to one side of that centre, sometimes to both, again extending to the cerebellum or to the corpora striata, or optic thalami.

3. That the nature of the cerebral affection is one of weakened nutrition, with some degree of irritation; as poor blood, rendered perhaps impure by the presence of the matter of scrofula, or of rheumatism, or by some morbid matter peculiar to chorea, excites the nervous battery, and causes it to generate its force feebly and irregularly. The centre of emotion thus feebly excited and irritated by the presence of an abnormal ingredient in the blood, extends its feeble and irregular polarity to that portion of the centre of implantation of the nerves, which, as the polar state of the conductors of the battery is regulated by that of the battery itself, exhibit the same enfeebled polarity as the centre in which they are implanted.

Lastly. The disease is essentially one of depraved general nutrition, which must be set right before the symptoms which arise out of the local disturbances can be removed; and this is the point of practical interest which must regulate our treatment of the disease.

These conclusions respecting the pathology of chorea receive confirmation from the facts to which I have already alluded—namely, that choreic movements occur in certain gouty states, and also in white softening of the brain, arising from diseased arteries. Under both these conditions the nutrition of the brain, as well as that of the nerves and muscles, must be depraved and weakened; depraved, especially in the former instance, by the matter or poison of gout; weakened in both.

And the treatment which is now by general concurrence, and with an unanimity which scarcely exists as regards the treatment of any other disease, pursued in cases of chorea, goes further to confirm these views. No one now-a-days thinks of adopting for this malady any other treatment but one eliminatory and corrective of the various secretions, by the use of purgatives, and at the same time tonic and bracing to the nervous system, by the free application of cold water to the surface, and also tending to improve the quality of the blood, by a nourishing diet, by chalybeates, quinine, and various metallic tonics. And if, notwithstanding the use of these strengthening remedies, the nerves of the limbs still exhibit debility or paralysis, the application of the stimulus of galvanism rarely fails to excite and promote their nutrient activity.

This plan of the treatment of chorea has not been adopted with such general consent without the previous trial of other plans. Sydenham, as is well known, treated chorea by bleeding; but he appears to have had very little experience of the disease. The authority of Sydenham appears to have led his successors to continue this mode of treatment; and even Cullen had not wholly abandoned it,—so hard is it to give up a practice sanctioned by high names. Heberden, indeed, had arrived at a different conclusion. This eminently practical physician says—"Bleeding and purging, and violent medicines, can hardly be judged proper for a distemper attended with no inflammation nor heat, and particularly incident to a very tender age, and to the weaker sex; and which, if left entirely to itself, would, I believe, generally cease spontaneously, and leave the constitution unhurt. This reasoning, he adds, appears to me to have been justified by fact and experience. When they have been used, I never saw any good effects from them, and rather suspect that they have done mischief."

In the acute form of general chorea, it is very important that the practitioner should not suffer himself to be led by the urgency of the symptoms, and the violence of the movements, into the adoption of any depleting or depressing treatment under the notion of stopping the movements by reducing the powers of the patient. The more you weaken the patient under these circumstances, the more incessant and urgent will the movements become. Great diligence, however, is needed in administering support and stimulants with the utmost freedom, and in throwing in large quantities of quinine and iron, or other tonics, care having been previously taken to unload the bowels by clyster or by purgatives. Great benefit also arises from the free and frequent use of the cold bath; from what I have myself seen, I would say that the greatest immediate benefit arising from the use of the cold bath is from its exciting a disposition to sleep much more decidedly than opiates, which do not generally act favourably in any of the forms of chorea.

Reviews.

The Undercliff of the Isle of Wight; its Climate, History, and Natural Productions. By G. A. Martin, M.D. 8vo. pp. 366. London: Churchill. 1849.

Dr. Martin has here given us, in an interesting form, the results of ten years' observations on the climate of the Undercliff in the Isle of Wight. To those who are desirous of resorting to this island for the benefit of health, this volume will prove an entertaining and useful companion. One half of the work is devoted to a general description of the place, with remarks on climate in reference to disease. The other half includes the natural history, botany, and geology of the island. Hence invalids who have taken up either of these pursuits, may, while deriving benefit from a change of air, find profitable occupation for their minds.

From an examination of the chapter on Climate, we find that Dr. Martin has not neglected to avail himself of the observations of the best medical writers on this important subject; and in checking them by his own experience, he has been able to make some important additions to the medical topography of the island. His mode of taking observations by the thermometer and barometer, was such as to insure the accuracy of the results; and his perseverance and industry in taking them, are sufficiently indicated by the fact that in ten years there was only the omission of *one* day! We learn from this authentic source, that the mean annual temperature of the Undercliff is 51°.72. This approaches very nearly to the mean temperature of London and Paris, and is identical with that of Clermont (Auvergne) and the Columbia river. The temperature of the water in the deep springs of the island is 51°.65, therefore corresponding very closely to the mean temperature of the air. The spring at Carisbrook is 290 feet deep, and commonly contains about 90 feet of water; it has a mean temperature of 51°.37, and an annual range of only 1°.75. A fact of great importance to those who seek the sanitary influence of climate, is that the annual range of temperature in this part of the Isle of Wight is very small. The extreme difference between the highest and lowest mean, was only 3°.60, while the variation is commonly not greater than 1°.82. The mean temperature of the seasons is—for winter, 41°.8; spring, 49°.82; summer, 61°.31; autumn, 53°·95. February is the coldest, and August the warmest month, the extreme range of mean temperature between them being only 21°.35, while London exhibits a difference of above 26°.5, and Devonshire of 24°.57.

The medical application of these facts in the chapter "On Climate in reference to Disease," will be found highly serviceable to invalids. We do not find in this section of the work any statistical table on the mortality and morbility of the inhabitants of the locality,—an omission which it would be advisable to supply in a future edition. The remarks made, are good and practical, without being over-laudatory of the climate. The author adopts the now general opinion of professional men, that the transportation of phthisical patients in the advanced stage of the disease, to foreign climes, is a positive cruelty. He considers on the whole, that the climate of the Undercliff is decidedly favourable to patients labouring under pulmonary disease.

Dr. Martin has rendered good service to patients and practitioners by the publication of this work. It is satisfactory to find that scientific treatises of this kind are now taking the place of the dreary guide-books, which were formerly alone to be met with at our favourite watering-places.

THE CHOLERA FUND IN FRANCE.

The Committee appointed to examine the credit of 500,000f., applied for by the Government to guard against the spread of the cholera, has decided in favour of granting the credit.

Proceedings of Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Tuesday, April 10, 1849.

Dr. Addison, President.

On the Utility and Necessity of Performing Paracentesis Thoracis in Certain Cases of Pneumo-Thorax. By Hamilton Roe, M.D., Physician to the Westminster Hospital, &c.

The object of this paper is to show that pneumo-thorax is not a necessarily fatal disease, and that paracentesis is the best remedy which can be employed for its cure. The author adverts to the fact, that the disease arises from a great variety of causes, and that not unfrequently there is either no alteration of structure in the lungs, or so little as to warrant us in supposing that it might be cured. He relates two fatal cases that have come under his own observation, in which paracentesis was recommended by him, but not performed, and in which, after death, it was found that there was in one instance no perforation of the lung, and no disease of the lung whatever; while in the other the opening in the pleura was very small, and although four small caverns and a small number of tubercles of inconsiderable size existed in it, there was no organic disease immediately fatal, and life might have been at least prolonged, had the lung been relieved from the pressure of the air in the pleura by the operation of paracentesis. The author then refers to several other writers, who have narrated similar cases, and especially to the thesis of M. Saussier, who has shown that the possible causes of pneumo-thorax are seventeen. The author himself arranges the varieties of cases under four heads:—1. Those where the air is secreted by the pleura; 2. those where it arises from decomposition of fluid; 3. the cases where it escapes from a distended or ruptured emphysematous cell; and 4. those where it issues from a fissure in the lung. The first three varieties are susceptible of cure, and the fourth is not necessarily fatal. After describing the symptoms distinguishing these different varieties of the disease, the author proceeds to show that the mere presence of air in the pleura is not a source of danger; that the air may in some cases be absorbed, and that it is therefore only where air is accumulated in such quantity as to cause great difficulty of breathing that we are called on to remove it by tapping the chest. The operation, in order to be successful, ought to be performed before the lung, by compression, has become carnified, and the other lung congested. The objection that the air admitted from without will itself compress the lung, the author meets by saying, "that if the wound made by the canula in tapping be kept open, the lung, if healthy, will expand on being relieved from pressure, and may, if the air can escape as fast as it enters, not only come into contact with the costal pleura, but contract adhesions to it, and obliterate the pleural cavity." In support of this statement, he gives the particulars of a case observed and related by Mr. Benjamin Phillips, in which, by sloughing of the soft parts, the cavity of the pleura was completely laid open, in two intercostal spaces, to the extent of several inches, and where, "at every act of ordinary inspiration, the lung came into close contact with the ribs; at every expiration the lung retreated to the extent of half an inch from the ribs." The author then refers to published reports of nineteen cases, in which paracentesis thoracis has been performed for pneumo thorax, in ten cases successfully; and after observing that the question, whether the opening made in the operation should be closed or kept open is yet to be decided, but that it seems to him desirable to keep it open when the air enters the pleura through an opening in the lung, and to close it in the other cases, he concludes his paper by relating a case in which the wound was left open with a favourable result.

Dr. **Webster**, in reference to the operation of paracentesis thoracis, said that this operation was as old as the times of Hippocrates. He then alluded to a case which some years since had come under his own care, of abscess of the lung, of a circumscribed character, and connected with the costal pleura, in which he believed an operation would have saved life.

Dr. **Snow** said that the last case related appeared to be one of empyema, and not of pneumo-thorax. He thought that the air was admitted during the tapping. When paracentesis of the thorax was performed in the usual way, it was impossible to prevent the admission of air, and there was not more of it in the pleura in this case than was frequently thus admitted. He considered that this view of the case would better explain why the affected side of the chest did not become distended, than the supposition of the author that it was confined by partial adhesions of the pleura. He was of opinion that there must be a mistake with respect to the case in the Westminster Hospital, in which there was an opening into the pleura. The lung must have receded from the walls of the thorax during inspiration, and have come in contact with them during expiration, if respiration were performed by means of the muscles, as every one believed.

Dr. **George Burrows** said that the last case he had some knowledge of, as it had been previously under the care of Drs. Latham and Jeaffreson. It was undoubtedly a case of much interest, but he did not see that this or the other cases of Dr. Roe had thrown any light on the difficult question as to when we were to operate in this disease. These cases, indeed, were generally surrounded with difficulty, whether they were of a simple or complicated character. The patient was in danger of dying asphyxiated, either from the presence of air, or of air and fluid; and yet an operation in a constitution affected with such a disease was likely to fail. Should we, then, operate in such cases? He agreed with the author that the danger of the presence of air in the pleura had been much overrated. The danger would depend mainly on the quantity and rapidity of the effusion, and the state of the lung on the affected side. Thus, when air rushed into the pleura, when the lung was healthy, as in the case of a fractured rib, the danger was serious; so also in a case of rupture of an air-cell from violent efforts to cough, as in pertussis. He briefly alluded to a case of hooping-cough, in which a little patient suddenly died in convulsions after a paroxysm of coughing. After death, an air-cell was found ruptured, and the pleura full of air. But if, on the contrary, the air was small in quantity, and the lung diseased, the lung on the opposite side would do the work of respiration with little or no bad consequences. He considered, as he had said, that the cases brought forward by the author had not decided those cases of pneumo-thorax in which paracentesis was to be employed with advantage. The first case detailed was one of pleurisy with effusion of fluid, and the subsequent presence of air: this case proved fatal. The author had regarded the air, in this instance, to be the result of the decomposition of the effused fluid in the chest: it certainly might have been so; but, again, it might have arisen from the presence of an aperture in a bronchial tube. This did occur sometimes in cases of ulceration of the pleura communicating with a bronchial tube. He had seen such a case. A patient came under his care with effusion into the pleura; tapping was resorted to, and the patient was very much better. Fluid, accompanied with air, again occupied the pleura; death ensued, and, on examination, an ulcer of the pleura was found communicating with a bronchial tube. Now, the first case of the author might have been similar to this one, and little good would have resulted from the operation. The second case was one of phthisis, with effusion of fluid and air into the pleura, and no good would have resulted from paracentesis; for if the air had escaped from the cavity of the chest by an opening made, the lung would never have again expanded. The third case he agreed with Dr. Snow in regarding as one of empyema. It had been a case of pleurisy, with abundant effusion, and, perhaps, even of ulceration of the pleura. He had seen such cases. This case was cured by paracentesis, the opening being left patent. He questioned, however, whether this kind of proceeding was anything better than a doubtful one. He briefly alluded to a case in which there was an abundant effusion into the pleura. An operation was performed, and a large quantity of fluid removed. Fluid and air again filled the pleura; a free opening was made, and kept patent by means of a gum-elastic catheter. Great constitutional mischief ensued, the pus became fœtid, and the patient died. The cases detailed were of pathological interest, but had not determined the question when the operation of paracentesis should be performed in cases of simple pneumo-thorax, or in pneumo-thorax with effusion.

Dr. **Baly** wished to refer to two points in the paper. First, as to the means of relieving a patient when air was effused into the pleura; and secondly, as to the spontaneous cure of cases in which there was such effusion. The great distress which resulted from the presence of air in the pleura depended not only on its pressing out the air from the lung, but on its preventing, by the great compression exerted, the circulation of blood through that organ. He related the case of a man suffering from phthisis, in whom pneumo-thorax developed itself. The man was bled, with great relief. He related another case of pneumo-thorax, unaccompanied by phthisis. The patient had paralysis of the lower extremities. Pneumo-thorax suddenly developed itself, and the patient was in the greatest possible distress. Blood was taken from the arm with much relief. He only took opiates after. With reference to the absorption of air after its effusion into the pleura, he related a case of advanced phthisis, where air was effused into the pleura. After a time the air was nearly removed, and liquid only remained; the liquid gradually diminished, and when he last saw him there was scarcely any liquid remaining.

Dr. **Ogier Ward** could confirm Dr. Roe's ideas of the little danger that exists from the entrance of air into the cavity of the pleura, from some cases that had occurred to him, besides the one which he had quoted in the paper, in which, however, the air was not absorbed, as Dr. Roe stated, but the cavity was gradually obliterated by the expansion of the lung. In a case where he had operated for empyema in a child two years and a half old, air was admitted into the chest at the second operation, and again at the third, on each occasion above half a pint of healthy pus being removed. After the third operation, both the air and fluid were absorbed. In another case, the patient, an old woman, lived nearly two years with a fistulous opening into the right pleura constantly discharging pus. In a third case in which he operated to relieve the extreme oppression, the pleura became gangrenous, and the patient died; but this was a case of phthisis in an advanced stage. In a fourth case, the patient lived so long after the pneumo-thorax was established, and there was for some time so little disease in the lung, that he regretted he had not given him the chance of recovery that an operation might have afforded. With regard to the advancing and retiring of the lung from the parietes of the chest during respiration, he mentioned a case of gangrene of the lungs and pleura, with perforation of the intercostal muscles, in which, at each expiration, the discharge came gurgling forth, but he could not say whether the lung advanced also.

Dr. T. **Thompson** thought that we were much indebted to Dr. Roe for disabusing the mind of the profession respecting the danger of paracentesis thoracis. He considered that the operation *per se* was unattended with any particular circumstances of hazard, the danger of these cases arising from delaying the operation until the lung became too much compressed. The transient introduction of air into the pleura was not injurious; it was its continuous escape into the cavity which was of importance. When fluid was in the chest, we should only allow a little to drain off at a time, in order to permit the lung to expand gradually; in this way, only a small quantity of air would be admitted, and become slowly absorbed. It was better to repeat the operation than to admit too much air at once. He mentioned a case in which a piece of an elastic catheter, placed in the wound to keep the orifice patent, slipped into the cavity of the chest, and the patient died.

Dr. **Hamilton Roe**, in answer to Dr. Burrows, said, that in his first case the patient was a gentleman with disease of the heart; and on examination after death, there was no aperture in the lung by which air could escape. This was proved by inflating the lungs through the trachea, by means of a pair of bellows. The lung was healthy, and the air had resulted from the decomposition of the effused fluid. He knew, in the second case, that the lung was collapsed, and keeping this in mind, he had, previous to opening the body, punctured the thorax, and a large quantity of air had escaped. This he had also done in the first case. The same effect would have resulted if the operation had been performed during life. He believed that when the lung itself was not much altered in structure, nearly all the air in the pleura would escape if an opening were made in the parietes of the thorax: the lung would expand and nearly fill the pleura. In the case in the Westminster Hospital, under the care of Mr. Phillips, in which there was a large opening in the thorax, the lung came to within half an inch of the parietes of the chest, showing that the lung had a tendency to remain of a medium size, when the compression of confined air was removed. Even admitting, from any cause, that this expansion did not take place, still the suffering from distension of the pleura, consequent upon pneumo-thorax, was so great, that the operation of paracentesis should not be delayed. In the third case, it had been said that the air probably got into the chest during the performance of the operation. He might observe, that Mr. Stanley, who had operated, had taken great care not to allow air to be admitted into the pleura. Where, then, did the air come from? He had no doubt, as he had stated in his paper, that it came from an opening into a bronchial tube. In these complicated cases of pneumo-thorax with fluid (for he thought that, after a time, fluid to some extent was always present), the question to be decided was,—should we make an opening into the chest, and support the general health, or leave the case to Nature?

Mr. B. Phillips, in answer to a question from the President, said that a man was in the Westminster Hospital with an exposed lung for six or seven weeks. He had correctly stated what he had observed. It appeared to him that the lung had an independent action of its own, for the effects stated in Dr. Roe's paper had certainly taken place.

WESTMINSTER MEDICAL SOCIETY

Saturday, April 7, 1849.

Mr. Hird, President.

The discussion on chloroform was revived by Dr. Murphy, who took an objection to the evidence adduced by Mr. Gream, inasmuch as his cases had not been published, and we were unacquainted with the whole facts. He was supported by other speakers.

Dr. Webster afterwards read some

Observations on the Health of the Metropolis during last winter, compared with similar months of the previous year.

Having adverted to the recent sanitary movement, which must in time produce beneficial consequences, Dr. Webster said, so far from the fears entertained by timid persons, that the public health would materially suffer by the re-appearance of epidemic cholera, the aggregate number of deaths from all causes had considerably diminished throughout London during the last six months, in comparison with the same period of the previous year, particularly in regard to diseases of the respiratory organs, usually so prevalent and fatal in cold weather. In proof of this opinion, notwithstanding the extraordinary severity of scarlatina, and presence of cholera, the gross mortality from all diseases, in London, during the last six months ending the 31st of March, was 30,263; whereas, during the parallel six months of the previous winter, the total amount rose to 36,060 deaths, being an excess of 5797, or 18·82 per cent. in favour of the current season. The author observed that the greatest difference occurred in diseases of the organs of respiration; by which, including influenza, in the winter of 1847 and 1848, the deaths were 11,197; whilst during the same six months, ending the 21st of March of the current year, only 5127 persons died from the same causes; being less than half the former amount, or an excess of 118·39 per cent. more deaths under this head, in the previous, than in the winter just terminated. Dr. Webster then alluded to some of the pectoral diseases, and said that 1965 persons had died from pneumonia this season, but 3159 the previous, thus giving an excess of 60·76 per cent. By bronchitis, 2047 died the last six months, whilst the number was 2984 in the former period, being 45·77 per cent. more than now. Again: 3040 died from consumption this season, against 3740 in the winter of 1847 and 1848, being nearly one quarter of the deaths greater from the same disease than recently. By influenza, only 78 deaths occurred, in place of 1739, registered during the former season. By measles, 391, instead of 1346, which thus caused two and a half times more deaths in the previous winter than the one just terminated. Scarlatina formed, however, a marked exception, in respect of its virulence and mortality, having proved more fatal last winter than for many years; it was, in fact, the chief epidemic of the season, 2546 individuals, principally under fifteen years of age, having died from that disease during the six months ending the 31st of March last, instead of 1362 during the parallel period of the previous year, although the mortality from the same cause was also then greater than ordinary. By typhus the deaths were fortunately less this year than last, 1585 having died from this cause during the present winter, in place of 2201 the previous, thus making an excess of 38·86 per hundred more in the last than in the present season. The author, subsequently alluding to bowel complaints, remarked, contrary, perhaps, to expectation, that, notwithstanding the existence of cholera, and the prevalent tendency to bowel complaints, diarrhœa and dysentery had actually proved less fatal during the last six months than in the same period of the previous year. Thus, in the six months ending the 31st of March, 1849, the deaths in London, by diarrhœa, were 554, instead of 644 in the same months of the year before. By dysentery, 135 then died, in place of 116 recently. The contrast is curious, seeing cholera has prevailed more extensively than usual, by which epidemic malady 984 persons died in London during the last six months; whereas only twenty one deaths are recorded in the previous winter. The author here observed, that great as the above amount of deaths by cholera may appear, it is not by any means so considerable as the mortality met with in the spring of 1832, when this malady also prevailed in London epidemically. For instance, in the month of March and the first week of April in that year, as many persons died from cholera in the metropolis, during these five weeks, as throughout the entire six months ending the 31st of March, 1849. Having now almost ceased to exist as an epidemic in London, as only four deaths had been recorded by cholera during the week terminating last Saturday, Dr. Webster believed little apprehension need now be entertained, although likely, as in the year 1832, the disease may again become epidemic next summer, or in the autumn, when cholera usually prevails in this country, but, for the most part, of a mild and less fatal description. From the various data detailed to the Society, notwithstanding the prevalence of cholera, and the unusual mortality of scarlatina, the author considered London had not become by any means unhealthy, nor had the last winter proved insalubrious. Dr. Webster subsequently discussed the diathesis generally exhibited by the diseases now passed under review. Speaking generally, from his own observation, as likewise from the information of other practitioners, the author believed that almost every complaint recently met with assumed an asthenic character—if not at first, at least soon afterwards, and even in those instances of disease which are really inflammatory, they very often soon exhibited symptoms of great debility and exhaustion—similar, in fact, to the peculiarity noticed when the influenza was prevalent last year in the metropolis. Scarlatina, measles, and diseases of the respiratory organs, come all within this category, and have required very different modes of management to the measures formerly found beneficial. Dr. Webster then adverted generally to the remedies employed, and the methods of cure recently adopted, which, he said, were generally tonic and stimulating. Exceptions might occur to this rule, but they were rare, even in those diseases of the chest which formerly required antiphlogistic treatment. The abstraction of blood appeared seldom, if ever, necessary; and it is now as uncommon to bleed a patient as it was formerly the reverse. Indeed, the lancet, like the sword of the soldier in the time of peace, might be said to have been laid up in ordinary. The author subsequently discussed the treatment pursued in the several diseases alluded to in his paper, which it is unnecessary now to particularize, as the plans adopted seemed generally based upon the symptoms manifested, and the principles he had enunciated. In concluding the communication read to the Society, Dr. Webster observed, that although scarlatina was one of the most prominent and serious epidemics prevalent during the last six months, whereby nearly three times as many persons were carried off as by cholera, still the latter malady occupied by far the most public attention. With respect, however to the management of scarlatina, the author said it differed essentially from the method other practitioners, like himself, had formerly found it expedient to employ. In previous epidemics of this eruptive disease, it was frequently necessary to resort to antiphlogistic measures, low diet, active purging, and even to bloodletting, either from the arm, or by leeches. During the recent epidemic, so far from depletion being required, or admissible, it was often advisable to commence supporting the system very early in the complaint, to give tonics, ammonia, wine, and sometimes even brandy, where the symptoms, apparently, but not actually, seemed inflammatory; debility, depression and a great want of tone in the system, being generally characteristic of the malady, whilst the remedies best adapted under the circumstances were of the above description. Fortunately, this severe complaint has recently considerably abated in virulence; and although still above the average of previous seasons, the consequent mortality is by no means now so great as it was about the latter part of last year, and the early portion of the current. However, at whatever period the present epidemic scarlatina may terminate, medical practitioners will not fail to remember its late great prevalence, rapid progress, marked symptoms of debility, and its unusually fatal character, as, likewise, the tonic stimulating plan of treatment which the disease almost invariably required.

The discussion which ensued had reference to the influence of atmospheric changes on the health.

SOUTH LONDON MEDICAL SOCIETY.

March 29th, 1849.

E. Ray, Esq., Vice-President, in the Chair.

Mr. Cock directed the attention of the Society to the present and late prevailing low type of disease, as evinced by the want of vital energy and reparative power; and, as illustrative of his views, related several cases of gangrene following erysipelas, injuries, and operations, where such a result could not have been anticipated under ordinary circumstances. At the termination of the paper,

Mr. Waterworth, in illustration of Mr. Cock's views, related a few cases of gangrene arising from the most simple causes. A healthy lad complained of pain in his head and stomach; his treatment was most simple, and he was not even confined to the house. Two days after, a blister was applied to the neck, and he was desired to remain in bed. On the day following he was better, but both arms were swollen, dark, and œdematous; and he died on the ninth day. In the second case, a female, aged 40 years, who had suffered from stricture of the rectum, moxa and setons had been applied. The seton had been removed, and the part had healed. No pressure was employed, but extensive sloughing over the sacrum and muscles of the back took place, and no cause could be detected: she recovered after three months' suffering. Hearing that Mr. Cock had similar cases in Guy's Hospital, he went there, and found the reports as stated.

Dr. Hughes inquired of Mr. Cock, whether the same character of disease existed in other wards of the hospital as well as his own, and suggested that young Mr. Waterworth might have brought the contagion.

Mr. Waterworth replied that his son had not seen the cases until the gangrene had commenced.

Mr. Cock said that Dr. Hughes seemed to point at an infectious nature of the disease. The gangrene pervaded the wards of both his colleagues. The tendency to gangrene is certainly a poison, although he could not affirm it as a fact, though many of the cases were favourable to such a conclusion. He took a man in with disease of the knee-joint, and he did not press for amputation. The joint was inflamed, and erysipelas set in externally, which ended in deep-seated abscesses of the thigh. A large opening was made, and gave exit to a large quantity of fœtid pus. The leg became gangrenous, but he ultimately recovered under the use of abundance of stimulants and nutritious diet. A man who lay in a diagonal part of the ward, and was just going out as cured, his bed being wanted, was placed in the bed next to this man: in two days he was attacked with fever, of a low type, and erysipelas set in over the leg and thigh: he was immediately removed to another ward, but a sloughy abscess opened at the upper part of the thigh: he also recovered under similar treatment. A third case was that of an old man who had wounded the anterior tibial artery, and was suddenly seized with collapse, followed by erysipelas, of which he died. This form had been most prevalent in one ward. The means of communication seem so easy in an hospital that it is very difficult to restrain the action of the supposed poison, and suggested the probability that it also might be communicated by means of sponges.

Mr. Robinson fully believed that the type of disease in his neighbourhood had been of a low form for the past twelve months: this was his own opinion as well as the opinion of many other surgeons, and that during this period a tonic plan of treatment was required. At a previous meeting he had brought forward a case of pneumonia seen by an eminent physician, who ordered venesection; but before this operation his ordinary medical attendant was consulted, and he modestly suggested that, as the person came from a malarious district, quinine ought to be given. The suggestion was acted upon, and the patient recovered.

Now the poison, he believed, may act in two ways—either through the respiratory and gastric membranes, or through the wound.

Scarlatina, especially in a scrofulous constitution, had shown a great tendency to sloughing, not in one house or street, but in several district localities. There was no doubt at the present moment a state of atmosphere depressing to the constitution. If the poison acted through the mucous membrane of the stomach, as occasionally happened, it might be removed by an emetic.

Dr. Murphy thought a sponge had nothing to do in producing such a form of disease. There was an analogy between erysipelas, hospital gangrene, &c. the result evidently of a vitiated state of atmosphere. It was to be regretted that the wards on the ground floor were chiefly reserved for accidents, as it was in wards where there were open windows, and where erysipelas generally commenced. There should always be wards in reserve, as in the Dublin Lying-in Hospital, which, after being occupied a certain time, are closed in order to be purified. Since that practice had been adopted, puerperal fever, the scourge of all lying-in hospitals, had been very much lessened.

Mr. Cock remarked that the gangrene exlated chiefly in the highest ward of the whole establishment; therefore the remarks of Dr. Murphy could hardly apply. Many of these cases would have died only for unremitting attention. The powers of life should be supported by never allowing the pulse to fail. Life had been saved by stimulants alone:—A gentleman, a few miles from London, about 35 years of age, temperate, and almost a water-drinker, took for several weeks one and half bottle of wine daily, one pint of brandy and eggs, and four bottles of stout; if omitted only for a short time, the tongue became dry, and profuse perspirations set in: an eminent surgeon, supposing the stimulating plan was rather great, diminished the quantity, but they were obliged to be resumed, and he is now recovering. He thought highly in such cases of beef tea, thickened with turtle. As regards quinine and sulphuric acid, they were highly serviceable where perspirations were present, but not in the first stage.

Mr. Evans inquired if there had been a tendency to diarrhœa? as he had numerous cases:—A gentleman just returned from India, whose health was not very low, had diarrhœa: it was subdued with difficulty; his tongue became moist with stimulants, but the diarrhœa was chiefly restrained by brandy. Had now many cases in which large masses of mucus came away, but the rectum examined showed no disease. Convalescence in these cases was tedious; and he was inclined to Mr. Robinson's opinion, that the cases related by Mr. Cock originated in atmospheric influence.

Dr. Hughes had, as might be supposed, not much to do with wounds; but in confirmation of Mr. Cock's opinion, mentioned the case of a nurse under his care for febrile symptoms: after two or three days, an ulcer was detected, with surrounding erysipelas; the disease extended; abscess after abscess formed; the integuments over the sacrum and each trochanter sloughed, although she had air cushions, distended bladders, &c.; even the pressure of the toes against each other caused gangrene: she went on from bad to worse, until one of the legs became, as he might term it, a rag. She sunk, although she had all the care which her case required.

PATHOLOGICAL SOCIETY OF LONDON.

April 16, 1849.

C. Aston Key, Esq. in the Chair.

Mr. Hewett reported the case of Fanny Fortescue, æt. 18, who had been a patient of Mr. Lee's in the Lock Hospital. She was first admitted on the 14th of February, and her general health at that time was much impaired, owing, as was supposed, to her previous intemperate life. She was sent to the Magdalen Asylum on the 23d of May following, but was readmitted into the hospital on the 9th of March, 1849. She now suffered from prostration of strength and symptoms of severe irritation. The pulse was 125, and the skin of a dusky brown colour; but she never complained of pain.

On the 5th of April she was found in the morning in a state of insensibility, and died about 12 o'clock on the same day. On examining the body, the bowels were found enormously distended; and on raising the cæcum, a portion of its lower wall, together with the lower half of the vermiform appendix, was felt attached to the pelvis. Occupying this portion of the intestine was a mass of calcareous matter, presenting the appearance of a large headed nail. The point of this was very sharp, and, on filing it, it became evident that the nucleus of this concretion was a pin, which, from the quantity of matter that had been deposited around it, must have been swallowed a very considerable time previous to her death. The body of the pin was supposed to have lodged in the vermiform appendix, and the head, around which the great deposit had taken place, to have remained in the cæcum. Both the cæcum and the vermiform appendix were ulcerated through. There had been no peritonitis.

Mr. Barlow said that he had the honour to present to the Society, at the request of Dr. Roe, a very large cyst in the brain of a boy, five years of age, who had died lately in the Westminster Hospital. The child, who, as was plain during life, had a communication of some kind or other between the right and left sides of the heart, was admitted into the hospital about the middle of last month, and died a fortnight afterwards of an affection seemingly dependent on the malformation of the heart. When it was first examined, it was found to be partially hemiplegic on the *right* side of the body. It could move the arm but not the hand; the leg, but not the foot; and both hand and foot presented the appearance which they assume so frequently in spasms. It was ascertained that when the child was ten months old, and had cut two teeth, it was observed to be partially paralysed, and since that time it had never regained the use of either its arm or leg; its mental faculties having remained unaffected throughout the illness.

On making an examination after death, a large quantity of serous fluid, tinged with blood, made its escape at the time the brain was exposed, and this flowed from a capacious cyst situated in the *left* hemisphere of the brain. It was covered above by the arachnoid membrane; in front, laterally and posteriorly, by the cerebral structure, which, on section, seemed normal, whilst below it was merely separated from the lateral ventricle by its own lining, and by the proper membrane of that cavity. It was about three inches in length, and an inch and a quarter in breadth. Its walls were irregular, and lined by a vascular membrane, reminding more of serous textures than aught beside. At one spot, situated at the bottom of the cyst, there was a rough uneven projection, almost as firm as cartilage. In order to show its minute anatomy, Mr. Toynbee, who was present, had prepared a microscopic view, which he would be happy to show to the Society.

It might well be made a question, whether the disease of the brain might not have owed its origin to the affection of the heart under which the child laboured. There was manifestly great obstruction to the return of blood in many cases of malformed heart: hence epileptic convulsions were very common in those who were unfortunately the subjects of it. Some years ago he examined a child, four years of age, who died in and from a fit of passion: in that case the auricles of the heart communicated, as also did the ventricles, whilst the office both of aorta and pulmonary artery was performed by one vessel only. The effects of some obstruction to the return of blood from the brain had long been observed in cases of diseased heart; but he doubted whether they had been sufficiently scrutinized in cases of malformation of this organ.

As to the question of cerebral cysts in general, Mr. Barlow said that he had been lately present at the examination of the brain of a woman who had been hemiplegic for three months previous to her death. The *right* side of the body had been affected, and a cyst of evidently recent date was found, which involved the posterior part of the *left* corpus striatum and a portion of the thalamus opticus; it was about the size of a walnut, and full of serum.

Mr. Barlow laid upon the table a small cyst in the hippocampus major, taken from a patient who died from an attack of epileptic convulsions; and concluded by referring to a remarkable case, the notes of which had been kindly shown to him by Dr. Basham, under whose care it had been. There were six cysts detected, of various size and duration,—four in the brain and two in the cerebellum; the latter contained blood, and would appear to have caused the death of the patient.

The following is Mr. Toynbee's account of the microscopic appearances of a portion of the cyst described above:—The portion removed for examination with the microscope was so hard as to cut like cartilage. A fine section was found to consist of cells having an oval shape, about the size of the blood-corpuscle; also of fine granular matter. Ramifying through the substance of this structure were numerous blood-vessels, completely distended with fatty matter. These vessels, seen by the naked eye, appear like white lines: by means of magnifying powers the oil-globules can be readily detected.

NEWCASTLE AND GATESHEAD PATHOLOGICAL SOCIETY.

February, 1849.

Dr. Fenwick, of North Shields, communicated the following paper on the

Statistics of Gonorrhœa and Syphilis in the Female.

The tables which I am desirous of presenting to the Society on the present occasion, are formed from the cases treated in the Lock Wards connected with the Newcastle Infirmary. They were constructed about six years ago, for the purpose of comparing the results of the mercurial and non-mercurial methods of treating syphilis; but as I have unfortunately lost the greater part of the papers connected with the subject, I am unable to afford any statistical information on any other point than the time required for the cure of each patient.

The total number of females whose cases have been subjected to numerical analysis is 943. Of these, there were 252 cases of simple gonorrhœa; in 170 sores existed along with gonorrhœa; and in 521 there were sores alone. Although the information to be derived is necessarily very limited, yet there appear some points worthy of attention.

Simple gonorrhœa.—Of the 252 cases of gonorrhœa, 188 were healed without mercury; the remedies employed being usually cubebs, copaiba, and astringent injections. To the remaining 64, mercury was exhibited on account of secondary syphilitic symptoms, or for some other disease existing at the same time as the discharge from the vagina. In those treated without mercury, the average time required for their cure was 32·91 days; whilst in those that took mercury, although affected at the same time with other complaints, the average period of treatment was only 30·23 days. As it is, however, a generally-received opinion, that the exhibition of mercury does not facilitate the cure of gonorrhœa, it is necessary that we should examine more minutely the cases we have just quoted. Table I. shows the periods in which the numbers of each class of cases recovered, and should be read in the following manner:—

There are 31·5 chances to 1 against the recovery of a female treated for simple gonorrhœa without mercury during the first week; if she be not cured in the first week, there are 5·3 chances to 1 against her recovery during the second week; if she remain uncured to the third week, there are 1·9 chances to one against her recovery during the third week.

The greater chance of recovery during the first two weeks of those treated without mercury may be explained either on the supposition that the exhibition of that medicine actually retards the recovery of those affected with gonorrhœa, or that the other disease for which it was given, protracted the stay of the patients in the hospital; the latter supposition is obviously the more probable.

But although those treated without mercury have had a greater chance of recovery during the first two weeks, yet a greater number of those whose stay was protracted to the third week, recovered in the third week after taking that medicine, than those whose diseases were cured without it. It may be also observed, that whereas of the sixty five murcurialized, only one case remained in the hospital after eleven weeks; of the 188 treated without mercury, eight were dismissed after that time. The chances are therefore sixty-four to one, that any case of simple gonorrhœa in the female, treated with mercury, will not be cured within eleven weeks after the commencement of treatment; whilst the probabilities in favour of recovery within the same time, are only twenty-two to one in those who have not taken mercury. The cause of this difference is not difficult of explanation. In most cases of long-standing gonorrhœa, we find that the persistence of the symptoms depends not merely on chronic inflammation of the vagina, but upon structural changes in the womb, and in the submucous tissues.

Cases continually present themselves to my notice of thickening and enlargement, or ulceration of the neck of the uterus, and of prolapsus of the vaginal coats, the origin of which is referred to gonorrhœa. I have, therefore, no doubt that the mercury has prevented, amongst those who took it, the tedious cases we observe in the list of those treated in the ordinary manner, by saving the womb and submucous tissues of the vagina from the structural changes I have mentioned: although I believe the exhibition of mercury will usually prevent such diseases, yet I have not been in the habit of treating them with it. The treatment I have found most efficacious in a thickened condition of the neck of the womb, whether resulting from gonorrhœa or not, is a very strong ethereal solution of iodine applied to the part by a sponge. This application was first recommended to me by Dr. Dawson, of Newcastle, who has been for some time in the habit of employing it.

With respect to gonorrhœa in the male, I have recorded a large number of cases treated in different ways, in order to compare the power of different remedies over the complaint in the latter stages. I have not yet analyzed these cases numerically, but the impression upon my mind is, that nitrate of silver is by far the most useful application for the cure of a long-standing discharge.

I have been disappointed in the effects of ointments, and usually now employ a strong injection of the salt. In one case, in which almost every other plan of treatment was put in force ineffectually, the patient was cured by touching the urethra in different parts with a piece of solid caustic passed down it through a catheter.

Syphilis.—There were 521 cases of sores, uncomplicated with discharges, of which 235 were treated with mercury, and 286 without it. Those who took mercury were seldom subjected to what is termed "long courses" of the drug, but the usual practice was to affect the gums, and for a week or two afterwards to keep up a gentle soreness by the exhibition of a smaller dose. Those who took no mercury were not selected cases, as for many years the general method of treating the disease was solely by astringent and stimulating lotions, with the occasional internal exhibition of sarsaparilla. It is evident that a considerable saving is effected in the time necessary to cure a venereal sore by the exhibition of mercury, for in those to whom that medicine was exhibited, the cure was on an average effected in 30·13 days, whilst in the other class 38·35 days were required. If we examine the chances of cure in these two classes during the first few weeks of treatment, we find a remarkable advantage in favour of the mercurialized: thus the chances that an individual treated with mercury will recover during the first week of treatment, are 18 to 1 against her, whilst against the non-mercurialized the chances are 70 to 1. There are only 2·7 chances to 1 against a person of the former class, after being under treatment one week, recovering during the second week, whilst in the other class the chances are 6·6 to 1. During the first month 155 out of 232 were cured of those mercurialized, whilst only 119 out of 286 were dismissed of those treated on the other system. There can be, therefore, no doubt that in the majority of slight cases of venereal sores, the exhibition of mercury greatly facilitates the cure.

Of those, however, who have been under treatment one month, there is a greater probability that an individual will be cured during the second or third month if she has been treated without mercury; for out of 167 of this class who remained at the end of the first month, 42 were dismissed during the next four weeks, and 33 in the subsequent month, whilst amongst the mercurialized the numbers cured during these two periods were only 52 in the first, and 20 in the second. This is readily enough explained when we remember that by the indiscriminate employment of mercury, many cases of simple sores are much aggravated; that not only is the healing of the original chancres protracted, but that secondary symptoms are hurried on. The great difficulty in the treatment of a primary sore is to know in what cases to exhibit mercury; for I believe that any practitioner trusting solely to that drug, although the majority of his cases will rapidly recover, will place a certain proportion in a much worse condition after than before its administration.

I made various attempts to discover in what proportion of cases secondary symptoms followed the different methods of treatment, but found it was impossible in a Lock hospital to arrive at any trustworthy results. This chiefly arises from the fact that the same individual so frequently suffers from the complaint, and is subjected to different plans of treatment at different times. I was equally unsuccessful in the other wards of the hospital in obtaining any large numbers to bear upon this important matter; but I satisfied myself that in almost all the *worst* cases of secondary syphilis in both sexes, mercury had been freely given, and that therefore it is no preservative.

With respect to the treatment of the secondary symptoms, I have always found mercury most successful in diseases of the periosteum and skin, where the symptoms have appeared within 12 or 18 months after the primary sore, and where the general health has remained good. In the chronic cases, in which, years after the original disease was contracted, the patient still remains at times tormented with inflammation of periosteum and bone, I have for some years placed my chief reliance upon arsenic.

Sores with Gonorrhœa.

There are recorded 170 cases of this class of disease, of which 53 were treated with mercury, and 117 without it. We find the difference in the time required for recovery again in favour of those who have taken the mineral, the average time of cure amongst them being 38·39 days, whilst in the other class it was 44·13 days. The 3d table is constructed on a similar principle with the preceding. This table presents a considerable similarity with that relating to gonorrhœa; the greater proportion of cures during the first week being amongst those who took no mercury, whilst the chances of recovery in the more chronic cases, are much less amongst them than amongst the mercurialized.

TABLE I.—CASES OF GONORRHŒA.

Table showing the CHANCES AGAINST *a female recovering during any of the undermentioned weeks after having been the previous number of weeks under treatment.*

	1	2	3	4	5	6	7	8
Treated with mercury .	31·5 to 1	5·3 to 1	1·9 to 1	2·5 to 1	3·1 to 1	3·7 to 1	0·8 to 1	1·3 to 1
Without mercury . . .	14·6 to 1	4·5 to 1	3·3 to 1	2·4 to 1	1·6 to 1	3 to 1	6·4 to 1	4·3 to 1

	9	10	11	12	13	14	15	21	26
Treated with mercury .	3 to 1	2 to 1	1 to 1	—	—	—	0 to 1	—	—
Without mercury . . .	2·7 to 1	0·7 to 1	—	3 to 1	2 to 1	3 to 1	2 to 1	1 to 1	0 to 1

TABLE II.—CASES OF PRIMARY SORES.

Table showing the CHANCES AGAINST *a female recovering during any of the undermentioned weeks after having been the previous number of weeks under treatment.*

	1	2	3	4	5	6	7	8	9	10
With mercury	18·5	2·7	2·7	2·	3·	3·2	4·1	3·1	3·	3·2
Without mercury	70·5	6·6	5·6	3·7	2·9	2·6	2·6	1·5	2·	4·4

	11	12	14	16	17	19	21	22	23	29	13
With mercury	2·2	2·6	4·	3·	2·	1·	—	—	0 to 1	—	1·6
Without mercury	1·7	1·	2·5	4·	3·	—	2·	1·	—	0 to 1	—

Table III.—Cases of Gonorrhœa complicated with Venereal Sores.

This Table shows the chances against *a female recovering during any of the undermentioned weeks after having been the previous number of weeks under treatment.*

	1	2	3	4	5	6	7	8	9	10
With mercury	52 to 1	5·5	3 to 1	3·	24·	5·	2·3	2·5	1·5	—
Without mercury	28·2	15·1	5·6	3·7	4·9	2·2	3·5	4·3	4·2	4·2

	11	12	13	15	16	17	18	20	23	25
With mercury	5·	0·6	—	1·	—	—	—	—	—	0 to 1
Without mercury	4·6	2·5	4·	—	3·	5·	0·6	1·	0 to 1	—

Proofs of Contagion in Cholera.

Dr. White communicated the results of an inquiry into the circumstances which attended the first appearance of cholera in Newcastle during the present visitation of the epidemic, and stated that his recent experience had induced him to change his opinion, and admit the contagious nature of the disease.

The family first attacked—patients of his friend Mr. Gregson, by whom he was called in—consisted of six individuals,—the parents, about 50 years of age, three sons and a daughter. The father had been working at Carham, near Coldstream, but had returned seven weeks. During his stay there, and shortly after his arrival, had been once to Berwick, and had several times visited Coldstream: was attacked with dizziness on Wednesday, the 6th of December, but had no purging until Tuesday, the 8th. The diarrhœa was suppressed by opiate pills. Had frequently been troubled with purging and flatulence when walking at Carham during the summer.

The eldest son, aged 28, had been working at Twizell, near Coldstream, in a wet and low situation, on the Till, a tributary of the Tweed. Returned to Newcastle on Wednesday, the 21st of November. Had visited Coldstream on the same morning; had been drinking, but had no purging until Friday, the 1st of December, when he was seized with cramps and sickness, rice-water evacuations, and other symptoms of Asiatic cholera, but lingered on, better and worse, until he ultimately sank in a state of collapse on Friday morning, the 8th. He had worked at Twizell for twenty-nine weeks, in a wet low situation; there was no disease there, although it existed in the neighbourhood. At Coldstream, Berwick, the hamlet consisted of a mill and a few cottages.

The second son, who had worked at the same place, came home a few days before (on the 23rd of November): had suffered from sickness and purging at various times during his residence at Twizell, but not for a month previously to his return: was attacked with a little purging and sickness on the night of the 10th of December. There were no cramps, and the attack soon subsided, having had but four evacuations, which were not choleric.

The third son, who had never been away from Newcastle, was attacked on the 7th of December with sickness and purging, but no cramps, and continued so affected until the 11th. Had diarrhœa a fortnight before, when working in the neighbourhood. Evacuations not choleric.

The *mother* was attacked on the morning of the 7th of December with sickness, cramps, and choleric purging, at 5 A.M., and sank next day at 9½ A.M.; had complained of some purging for three weeks before. Had visited Carham for a week about seven weeks previously. She was a strong healthy woman, of sober habits.

The daughter, aged 21, a servant in a respectable family in Newcastle, continued quite well, though paying occasional visits to her family, and residing with them since the 13th of December. Ten weeks previously she had a purging of five weeks' continuance, but had not since been affected.

Remarks.—Coldstream and Berwick were infected when the eldest son was at Carham, and after his return to Newcastle a letter dated the 9th of December was received from Carham stating that since his departure two of his friends had been carried off in a few hours by cholera. The locality in which this family resided when in Newcastle was most healthy; the rooms inhabited by them were numerous, airy, clean, and comfortable; the street wide and well drained; the family in easy circumstances; had good nourishment, and partook of ordinary wholesome food. The disease seems to have come from the infected district in the person of the eldest son; there appears to have been a predisposition to diarrhœa in the whole family. The son lingered a week, though attacked with unequivocal symptoms of Asiatic cholera, whilst the mother died in about twenty-four hours. *There was no cholera whatever in the neighbourhood of Newcastle at the time.* It clearly emanated from the son, as every single requisite, as to the spontaneous origination of the disease, foul air, privation, bad food, &c., was absent in this case.

⁂ These cases are deserving of the attention of the Members of the Board of Health, if only to prove to them that they have taken a most erroneous view of the subject of contagion in their published documents.

ROYAL INSTITUTION.

March 30, 1849.

Professor Faraday on

Plücker's Repulsion of the Optic Axes of Crystals by the Magnetic Poles.

Mr. Faraday commenced by comparing his own discoveries, with regard to that part of the science of magnetism which relates to crystals, with those of Professor Plücker. These respective discoveries, though analogous, were not the same: how far one set of discoveries would, as it were, fall into the other in the advance of science, time would show.

The first part of the lecture was devoted to the illustration and explanation of the optic axis of crystals, aided by an instrument contrived and managed by Mr. Darker, Jun. An ordinary ray of light was thrown by the apparatus first on a screen behind the lecturer, then on the ceiling, and afterwards on the side wall of the theatre. The ray exhibited everywhere the same properties.

On sending a ray of light through a piece of calcareous spar, it was split into two rays, resting side by side on the screen, where they were equally bright; but on passing them up to the ceiling, one ray became much fainter, while the other remained of its original intensity; and on gradually moving the rays from the ceiling to the side wall, the light ray became gradually obscured, while the obscure ray brightened, until, when they fell on a sheet of paper at the side of the room, the ray which had been obscure on the ceiling was now bright, while the ray which had been light on the ceiling almost disappeared. As a searcher-out of the nature of substances, the polarized ray just exhibited, has a power superior to that of an ordinary ray.

To show the optic axis of calcareous spar, Professor Faraday took a crystal, one of the angles of which had been rubbed off: on passing a ray of light through that part of the crystal which had been thus modified, the ray was unchanged: this line of no-action on the rays of light is called the optic axis.

Many peculiar and beautiful effects were produced by passing a polarized ray of light successively through calcareous spar, rock crystal and tourmaline, crystals which have each one optic axis; and finally, through the red ferro-prussiate of potash, the crystal of which has two optic axes.

Professor Faraday then placed a crystal of calcareous spar, which is a diamagnetic body, between the poles of the magnet; it was suspended on a little swing; as soon as contact, was made the crystal was repelled by the poles of the magnet. He then placed in the swing a piece of calcareous spar, so cut as to possess an optic axis; this was suspended so that the optic axis could move horizontally. As soon as contact was made, the crystal vibrated to and fro on each side of a certain line, and at length set so that the optic axis was in or parallel with the equatorial plane of the magnetic field, *i. e.* across a line uniting the poles. The very line which did not affect the properties of light, *i. e.* the optic axis, was the line which was repelled by the magnetic poles,—a fact beautifully illustrating Professor Plücker's "repulsion of the optic axis by the magnetic pole."

Professor Faraday then modified the experiment in a very interesting manner, by suspending the calcareous spar between the magnetic poles, and bringing the poles near to each other so as to increase the magnetic action,—when the crystal set diamagnetically. He then weakened the magnetic action by increasing the distance between the poles, when the crystal, instead of setting diamagnetically, set in the line of the optic axis. When the crystal was suspended between the poles, so that the optic axis, instead of being horizontal, was vertical, no action was exerted by the magnet on the optic axis.

The lecturer then suspended a crystal of tourmaline, which is a magnetic body, between the magnetic poles, and when the poles were near each other, the tourmaline, being magnetic, was attracted by them; but on increasing the distance between the poles, the magnetic force being weaker, the tourmaline set equatorially in the line of the optic axis. Thus, as with the calcareous spar so with the tourmaline: the magnetic force in the one, and the diamagnetic force in the other, were exerted when the poles were near each other, the crystal being intermediate; but when the magnetic force was weakened, both the magnetic and the diamagnetic crystal set magne-optically (to coin a word for the occasion).

The lecture on this abstruse subject was rendered clear throughout by a series of beautiful illustrations and accurate experiments.

April 20th.

Mr. HUNT *on Actinism and the Chemical Properties of Light.*

In this lecture Mr. Hunt gave an account of many of the interesting phenomena connected with the subject of photography.

If rays of light be passed through a prism, and the spectrum be allowed to fall on a prepared Daguerreotype plate, or on a piece of paper prepared with chloride of silver, it will be found that while the yellow is the most luminous ray, it possesses the least chemical action. This was exhibited in a very striking manner by placing two sheets of glass of different colours over an engraving,—one yellow, through which the engraving could be seen perfectly, the other dark blue, through which it could not be seen at all. The Daguerreotype taken by M. Claudet from this engraving so glazed, was very remarkable: *that* half of the picture which was distinctly seen through the yellow glass was not transferred in the least, while the half which was actually hidden from the eye by the dark blue glass, was transferred perfectly to the Daguerreotype plate.

The results of a similar and still more interesting experiment were then exhibited. Cress seeds had been sown some time previously in a box of soil: over one portion of this soil was placed a plate of dark blue glass, over another portion a plate of yellow glass. The cress under the blue glass germinated rapidly, and when exhibited was of considerable length, while that under the yellow glass had not grown at all. It appears that, under blue glass, seeds germinate more quickly than they do under ordinary light. After the first leaves are formed, the blue rays are, however, no longer serviceable. At this stage of growth, carbonic acid must be decomposed in the plant; and this process appears, from the experiments of Matteucci, to be a function of the vitality of the plant itself, and not due to the chemical action of the solar rays. The formation of chlorophyle is due to the luminous rays. The flowering and fruiting of plants are brought about by the red rays. The rays below the spectrum—the parathermic rays—have a scorching action on the vegetable structure, and they favour the ripening of plants.

It seems that in each season of the year, those rays of the spectrum predominate which are required to favour the particular stage of vegetation. In spring, the seeds germinate, and then there is a large amount of actinic force in the solar beam. During summer the plant is built up, and then the chemical rays are diminished, while the calorific rays are increased. In autumn, when a modified scorching process is required, the parathermic rays are most powerful.

Many of M. Claudet's admirable Daguerreotypes were exhibited in the Library.

Correspondence.

FRAUDS IN MEDICINES—CURES BY THE VALERIANATE OF IRON!

SIR,—Having occasion to employ preparations of valerianic acid, and particularly the valerianate of iron, I have been the victim of a singular fraud, to which I am sure you will readily call the attention of your medical friends. It is by no means pleasant for a practitioner to be using a substance which does not contain a trace of the preparation which he desires to employ, and for which he has had the satisfaction of paying an extravagant price. The article to which I refer, is sold in London as a superior valerianate of iron, *quite soluble in water;* but true valerianate of iron is not soluble in that fluid, although quite soluble in alcohol. If mixed with diluted hydrochloric acid, it is readily decomposed, and the acid (unmistakeable from its odour) separated. As none of these properties existed in the article above mentioned, I was induced to make a chemical examination of it; and I then found that I had been using with great care a little citrate or tartrate of iron, *scented with oil of valerian**. How many remedies get into disrepute from like causes?

Yours, &c.

MEDICUS.

April 24, 1849.

*** We will add to the remark of our correspondent—How many cures have been assigned to remedies which have not really been employed! The cod-liver oil mania has given rise to the extensive substitution of sperm and other oils. The cases are said to be equally *cured*, whether treated by the genuine or the spurious oil.

CHINESE ANÆSTHETIC.

M. STANISLAS JULIEN states that a Chinese surgeon, upwards of two hundred years before our era, had employed the Cannabis Indica to produce a state of insensibility previously to the performance of operations. The record of this proceeding is extracted from a Chinese system of medicine, entitled Kou-kin-i-long, which was published in the sixteenth century.—*Comptes Rendus.* X

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* Our correspondent is known to us as an excellent chemist, and we can rely upon his analysis.

Medical Intelligence.

THE CHOLERA IN PARIS.

According to the latest accounts from Paris, the cholera was on the decrease. The cases and deaths were fewer—a fact which was especially remarked with respect to the admissions into the Salpé rière. Up to the 23rd inst. there had been in the public hospitals and infirmaries, 2541 cases and 1418 deaths. Of these, 808 cases and 578 deaths occurred in the Salpétrière alone. In addition to the fatal cases above mentioned, the deaths in the city of Paris up to April 19th, were 471, making a total of 1889 deaths in six weeks.

The French journals, and the discussions at the Academy of Medicine, are entirely occupied with the subject of cholera.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN IN LONDON AND ITS VICINITY.

The Annual dinner of this Society,—the sixty-first anniversary, — took place last Saturday, at the Thatched House, St. James's Street; Martin Ware, Esq., one of Vice-Presidents, in the Chair.

The **Chairman** explained that his Royal Highness the Duke of Cambridge, the Patron, was in consequence of illness quite unable to attend as he had promised. The President, Sir Charles Clarke, too, had so recently recovered from a severe illness as to be unable to attend with safety; and a letter was read from him expressing his very great regret at his unavoidable absence, and his warm interest in the welfare of the Society.

Dr. **Bright**, in returning thanks for the College of Physicians, expressed his regret that so few Fellows of the College were present, his most cordial approbation of the objects of the Society, and his desire for its success and the extension of its benefits.

Mr. **Stanley**, as President of the College of Surgeons, was surprised at being the only person present in immediate connexion with the government of that body. He was convinced that the support and extension of this Society were objects of the greatest importance to the welfare of the profession. It might be truly said that the profession was composed of two great classes of members—those whose families would want its help, and those who would not. Both these ought to join the Society.

Mr. **Eyles** returned thanks for the Society of Apothecaries, in the unavoidable absence of the Master.

Mr. **John Clarke**, on the health of the President being given, returned thanks for the cordial reception of the toast, and assured the meeting of his father's unceasing interest in the welfare of the Society.

Sir **James Eyre**, for the Court of Directors, said that the Court took great pains in carrying out the important objects of the Society, and had great pleasure in witnessing its success.

Dr. **Wm. Merriman**, the acting Treasurer, read a list of the donations which he had received. The Society had to lament the death of H. R. H. the Princess Sophia, who for many years had contributed to its funds; and also that of its esteemed Vice-President, R. R. Pennington, Esq., who had shown the stedfastness of his regard by a legacy of 100 guineas, duty free. A legacy of £500, less the duty, had also been bequeathed by the late Thos. Spencer, Esq., of Myddleton Square, Pentonville.

Mr. **Tudor**, of the Stock Exchange, for the visitors, expressed their gratification at promoting the welfare of so deserving a profession as that of medicine, the members of which laboured so zealously for the good of others.

Mr. **Fuller**, as one of the stewards for this year, wished to give those of next year some extra trouble, by requesting them to aid in extending the influence of the Society. Let each steward exert himself to procure new members, as well as to obtain a large meetin and a good dinner.

Mr. **Walsh**, the Secretary, said that the experience of sixty-one years had established beyond a doubt the power of the Society to do what it professed—namely, to secure the families of its members from destitution. All that was now wanting was its extension, and this he found could only be effected by individuals personally persuading others to become members. Within the last few days he had received two applications from widows suddenly left in complete penury. The husband of the one, unhappily, had not been amember of the Society: to the other, he was able to promise a grant for immediate relief, and such subsequent permanent assistance as her case might appear to require.

Donations to the amount of nearly £300, including the legacy of Mr. Pennington, were announced. A good list of stewards was promised for next year, and several new members were named for proposal.

WORKS OF THE SYDENHAM SOCIETY.

The following works have been issued by this Society for the year ending March 25, 1849 —Rhazes on the Small-pox and Measles; Vol. I. of the Complete Works of Hippocrates; Vol. I. of the English Edition of Sydenham; and Vol. II. (the first issued) of Rokitansky's Pathological Anatomy. The seventh annual meeting will be held at the Society's rooms on Tuesday, May 1st.

INCREASE OF THE ANNUAL RATE OF MORTALITY IN PARIS.

It appears from the bills of mortality, that the deaths in Paris have increased in a progressive proportion since the year 1845. In that year the deaths amounted to 33,704, being 1 in 45. In 1846, 36,626, or 1 in 37. In 1847, 39,182, or 1 in 35. The returns for 1848 have not yet been published, but it is believed that the proportion of deaths will be 1 in 26 of the population.

EXCITATION OF ELECTRICITY IN BODIES.

At a lecture given by Mr. Faraday, on Saturday last, at the Royal Institution, some interesting experiments, illustrative of the electrical excitation of bodies, were shown.

Sulphur ground to powder in a mortar, and allowed to fall on a metallic plate of an electroscope, produced a great divergence of the gold leaves. Some ground coffee was then allowed to fall on the plate from a mill placed above it, and this also evolved a considerable portion of electricity. A piece of gutta percha, rubbed briskly with flannel, attracted powerfully light paper spheres attached to the end of a magnet balanced on a pivot. Two egg-shells, from which the contents had been removed, were placed on an insulated glass stool, and were powerfully attracted, and almost lifted from the surface, by gutta percha, shell lac, and glass, rubbed with flannel.

The most singular experiment was that of igniting a jet of coal gas by the electricity developed in rubbing with caoutchouc, the surface of a sheet of foolscap paper insulated on a glass stool. After moderate friction, as in rubbing out pencil marks, the sheet of paper was laid on an insulated brass disk, which terminated in a round knob close to the open jet. The gas was immediately ignited by the discharge of the electricity generated in the paper by the India rubber: the same sheet, without further rubbing, served to ignite the gas two or three times.

The remarkable electrical properties of *xyloidine*, or transparent gun-cotton, were then shown. The slightest friction between two sheets of paper developes in this substance such an amount of electricity that it is almost torn in the effort to remove it from the substances to which it is attracted.

SOLUTION OF CAMPHOR IN CHLOROFORM FOR MEDICINAL USE.

[The Messrs. Smith of Edinburgh have recommended the following formula for the medicinal exhibition of camphor in any dose. Some practitioners have failed in making the solution, because they have omitted the yolk of egg, which is absolutely necessary, in order to allow of dilution with water.]

The formula is as follows:—Three drachms of solid camphor are dissolved in one fluid drachm of chloroform. The solution is most *rapid and complete*, and the bulk of the liquid is now increased from one to fully four fluid drachms. This solution, rubbed up with the *yolk* of one fresh egg, may be formed into an extremely elegant emulsion by the addition of water, without the slightest separation of the camphor or chloroform; in fact, no separation of any kind takes place. If to the proportions given above, as much water be added as to make a four-ounce mixture, each *teaspoonful* of the mixture, when formed, will contain about *five and a half grains of camphor*, and about *two minims* of chloroform. The capability of the formula being varied, so that either the camphor or chloroform may constitute the predominating ingredient, must be quite obvious. This mixture can be administered in any ordinary vehicle, such as water, without the occurrence of any separation; indeed, the mixture is as readily and completely effected as cream with tea or coffee. We have tried the effect of several medicinal substances on the mixture: with none of them has any separation been caused. With water alone, however, the chloroform solution of camphor separates in a few days, but they readily unite again when slightly agitated. The solution of camphor in chloroform, although insoluble in water alone, appears in this mixture to be in as complete a state of mixture as the butter in milk when newly drawn from the cow.

⁂ The only novelty in this announcement of the Messrs. Smith, is that of recommending the use of yolk of egg, in order to allow of the ready mixture of the chloroform solution with water. The solubility of camphor in chloroform was pointed out in a paper published in this journal, in our number for December 24, 1847, vol. xl., p. 1119. This solution of camphor would probably be found serviceable for embrocations.

ROYAL COLLEGE OF SURGEONS.

Gentlemen admitted members on the 20th inst.:—E. W. Mayne—J. F. Pritchard—H. E. Brameld—A. Law—W. Tidmas—J. C. Lynch—W. Tomlin—E. Younge—W. Harrison—T. O'K. Gordon—C. A. Allen—H. Briggs.

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 12th of April, 1849:—Charles Augustus West, Camelford, Cornwall—Francis Edward Goldsmith, Boston—James Cummin Toshach, South Shields—Edward Batt, Witney, Oxon. — Griffith Hooper Griffiths, Cheltenham — Henry William Borlase, Helston—Arthur Rudge, Fakenham—John Robinson, Midhurst—John Davies, Wreckenton—Herbert Brown, Tonbridge.

April 19th.—Frederick Duke, Hastings—William Matthew Sheppard, Fulham—Isaac Tucker, Westbury Leigh — John Clarke, Greenham, Berks—Philip William Govett, Plymouth — John Higginbottom, Jun., Nottingham—Thomas John Warburton, Bettley, Staffordshire—Thos. Hutchinson, Camborne, Cornwall—James Denton Hulme, Leicester—James Newham, Lyme Regis — Edmund Whitaker, Bacup, Lancashire—James William Crow, Gorlerton, Suffolk—David Morris Thomas, Carnamman, Carmarthen.

OBITUARY.

On the 17th of January, at Graham's Town, Cape of Good Hope, in his 34th year, Edward Russ, Esq., surgeon, late of Castle Cary, Somerset.

At Naples, on the 12th inst., Charles O. Reilly, Esq., surgeon, in his 69th year.

Recently in Paris, M. le Docteur Masson. This eminent physician died quite suddenly, while apparently in a state of perfect health.

The Academy of Medicine has also lost another of its members in M. Lebreton. This gentleman also died suddenly, shortly after his return from attending a female in her accouchement.

On the 23d inst., W. Warden, M.D., of Her Majesty's Dockyard, Chatham, in his 72d year.

Selections from Journals.

CASE OF DEATH FOLLOWING THE USE OF CHLOROFORM. BY M. BARRIER, SURGEON TO THE HÔTEL DIEU, LYONS.

J. Verrier, æt. 17, was received into the Hôtel Dieu of Lyons, on the 24th of Jan. 1849. He was of a lymphatic temperament and good constitution. On his legs were the cicatrices of chronic abscesses, which he attributed to his employment as a miner. He was admitted for a disease of the middle finger of the right hand, consisting of complete necrosis of the first phalanx, with suppuration and fistulous openings at both articulations of the bone.

As the patient's health was good, he was at once, and by his free consent, placed under the influence of chloroform. As usual, a piece of fine gauze was employed; it was spread over the face, leaving a free passage for atmospheric air: the chloroform was dropped from time to time upon that portion of the gauze which was over the nostrils. It was administered by two assistants accustomed to its use, and who at the same time attended to the pulse. The operator superintended the assistants. At the end of four or five minutes the patient still felt and spoke; and at the end of another minute he spoke and was somewhat restless. Up to this time, from a drachm to a drachm and a half of chloroform had been employed. The pulse was regular, and of the normal strength. All at once the patient raised his body, and struggled so that the limbs escaped from the hold of the assistants, who however seized them quickly, and replaced the patient in his position. Within a quarter of a minute one of the assistants stated that the pulse at the wrist had ceased to beat. The handkerchief was removed. The countenance was completely altered. The action of the heart had altogether ceased; the pulse could not be felt anywhere; and the sounds over the region of the heart could no longer be heard. Respiration still continued, but it became irregular, weak, and slow; and at length ceased completely in the space of about half a minute.

The extreme danger of the patient was manifest, and immediate and energetic means were employed to rouse him. Ammonia was held to the nostrils, and rubbed in large quantity over the surface of the chest and abdomen. It was also applied to the most delicate parts of the skin, *e. g.* the lips and the extremity of the penis, with a view to excite irritation. Mustard was used; the head was inclined over the bed; and finally an attempt was made to restore respiration by means of alternate pressure on the abdomen and chest. After two or three minutes, respiration reappeared, and even acquired a certain fulness, but the pulse nowhere returned. Frictions were continued. Respiration became again slower, and at length ceased. Artificial inflation was practised, at first through the mouth, and afterwards through the larynx, by passing a tube through the glottis, as it was perceived that air had passed into the stomach from the mouth. The precordial, epigastric, and laryngeal regions were energetically cauterized with a hot iron. The pulse did not return. For the space of half an hour every effort was made to resuscitate the patient; but in vain.

The autopsy could not be made until seventy-two hours after death. The temperature being low, the body showed no signs of decomposition; there was still rigidity of the limbs. The features were not altered. The examination of all the organs was made with care.

The stomach contained about an ounce and a half of a thick fluid, of the colour of the lees of wine, in no respect resembling an alimentary fluid. The organ was distended with gas, as was also the rest of the alimentary canal, which was otherwise sound. The liver and spleen were somewhat congested.

The heart, which was normal in volume, was flaccid and empty, contained neither blood nor air. The ventricular parietes were moistened by a fine, very red foam, as if from the presence of a little blood, which had been, as it were, whipped by the fleshy columns of the heart. The venæ cavæ and the portal veins were distended by black fluid blood in great quantity. On the Eustachian valve there was a fibrinous clot, moderately firm, and weighing from 60 to 70 grains. It was the only clot met with in the cavities of the heart and the great vessels. These cavities, which were carefully opened, did not contain any appreciable quantity of air.

The lungs retracted on opening the chest. They presented both on their surface and in their substance a very black colour; otherwise their tissue was healthy. The larynx and trachea presented no lesion. The brain was normal. The sinuses of the dura mater contained a considerable quantity of black uncoagulated blood.

Remarks.—This case is reported by MM. Bretin and Petit. M. Barrier remarks that it is to asphyxia, properly so called, that the death of this patient must be attributed. In asyhyxia it is the lungs or some part of the air-passages that present an obstacle to the circulation. The current of blood is successively arrested in the right cavities of the heart, and in the general venous system. But in this case the pulmonary artery contained little blood, and the ventricle and right auricle were almost empty. The venous system alone was full. The heart was flaccid and empty, as if a tetanic contraction had suddenly arrested the performance of its functions. He thinks that the cause of death cannot be attributed to the introduction of air into the circulatory system. There were no traces of emphysema in the lungs. The only cadaveric lesion discovered was *the fluidity of the blood.* In M.B.'s opinion the proximate cause of death was the sudden cessation of the contractions of the heart, owing to some lesion of the nervous influences necessary to the functions of that organ. This lesion was without doubt the effect of chloroform, but the instantaneous manner in which it took place can be attributed only to one of those mysterious agencies which perform so important a part in disease, and which, at present, we have no means of recognising beforehand.

The editor of the *Union Médicale* quotes the following from the conclusions recently come to by the commission on chloroform appointed by the Academy of Medicine:—

"The dangers arising from the use of chloroform will be obviated by observing the following precautions:—1st. To abstain from or arrest its administration in all cases where it is contra-indicated. It is important to ascertain the state of the organs of circulation and respiration. 2d. To take care, during the inhalation, that the air mingles in sufficient quantity with the vapour of chloroform, and that respiration is freely performed. 3d. To suspend the inhalation so soon as insensibility has taken place, resuming the inhalation if sensibility should return before the end of the operation."

The following remarks appear in a letter on the cases of death from chloroform, addressed by M. Stanski to the editor of *L'Union Médicale*:—

"There is one circumstance of great importance which has been hitherto unnoticed. It is, that all the persons submitted to the action of chloroform, and who have sunk under its influence, have remained, during its inhalation, in the *sitting position.* It is probable, not to say certain, from our knowledge of the nature of syncope, that this position has had much to do with, if it has not been the principal cause of, the rapidly fatal termination in the cases referred to." [This letter was written before the publication of the present case.] "In fact, the force of the heart's action diminishes under the influence of an anæsthetic agent; and in a person in the sitting posture, the heart sends less blood to the brain, since the blood has to ascend in opposition to its own weight: the brain, being less stimulated on this account, reacts feebly on the functions of the heart; and, from the reciprocal anæsthetic influence of these two organs, there may result a fatal syncope, which might perhaps not have happened if the patients had been in a horizontal posture."

These remarks of M. Stanski are important, and they agree with the observations previously made in this journal, on the increased danger occasioned by administering chloroform in the *sitting posture.* This view, which applies with much force to the deaths from chloroform previously detailed in this journal, does not apply to the case just reported, as the chloroform was there administered to the patient when in the horizontal posture.

In this, as in all the other fatal cases, the chloroform was administered, not by means of a special apparatus, but on a handkerchief. It would therefore appear that it is safer to use an inhaler than a handkerchief, especially if it be so constructed as to admit any desired quantity of pure air, and to show, by a tell-tale expiratory valve, whether respiration is going on freely. With an inhaler, the administration can be discontinued and renewed with great ease and precision.

In the above case the administration of chloroform appears to have been very imperfect: *six minutes* elapsed before the patient became unconscious. After the struggling had ceased, the inhalation was persevered in: this we consider to have been a fatal error on the part of the administrator, who appears to have been ignorant of the cumulative action of chloroform. The time when the judgment and promptness of the administrator are most required is when the muscles have become rigid, the limbs sometimes being moved spasmodically, the patient being generally unconscious, the pupils at the same time contracted, and the eye, especially in young persons, usually turned up. At this stage, the inhalation ought either to be discontinued, or the chloroform vapour ought to be plentifully diluted with air. Dr. Snow, who is one of the safest and most successful administrators of chloroform, is in the habit of diluting the vapour plentifully with atmospheric air, not only at the beginning, but also towards the termination of its administration.

The empty state of the heart and great vessels, and the freedom of the lungs from congestion, in this case, may be assigned to the artificial inflation of the lungs. The heart's cavities, being inactive, were compressed and emptied by the pressure of the air, which, being forced into the lungs through the larynx, distended the cavity of the chest.

It appears that, in performing artificial respiration, the larynx was not pressed backwards against the œsophagus, so as to prevent the ingress of air into the stomach: in fact, the stomach and the whole intestinal tube were distended with the air which was intended for the lungs.

There is much danger in pressing on the abdomen during the performance of artificial respiration, as, by so doing, the contents of the stomach are often forced upwards along the œsophagus; and in ascending to the larynx, they may flow backwards into the trachea, passing between the relaxed vocal chords, and thus aid in producing fatal asphyxia.—*L'Union Médicale.* Z

COMPOUND FRACTURE OF THE HUMERUS —EXTENSIVE LACERATION OF SOFT PARTS—AMPUTATION AT SHOULDER-JOINT.

HENY M'GUIGAN, æt. 43, married, labourer, was admitted, June 28th, with a compound comminuted fracture of the right humerus, extending nearly to the head of the bone, with extensive laceration of the soft parts, caused by the passage of a train of burthen cars over it. The nature and extent of the injury was such as to demand immediate amputation at the shoulder-joint; reaction being fully established, I at once performed the operation. The flap was formed of the deltoid; the artery was readily controlled by pressure with a key upon it as it passes over the rib. The patient was a large, muscular man: as the division of the lower portion was being made, by a slight involuntary motion of his body he displaced the position of the key, causing at the moment considerable hæmorrhage; this was soon checked, the vessels secured, and the wound dressed with adhesive strips, charpie, and bandages; an opiate administered, and directed to be repeated if requisite; diet confined to gruel, tea, and bread.

July 1st.—Removed and reapplied strips; water-dressings now directed; adhesion by first intention of part of the wound.

18th.—Ligature of axillary artery separated to-day. There has been, and still continues, very free suppuration; the water-dressings continued.

20th.—Suppuration diminished; union going on well: he is now allowed to get up, and has house diet.

August 25th.—Discharged well.—*American Journal of Medical Sciences*, 1849.

RELATION BETWEEN THE VITAL POWERS AND THE MOLECULAR CONSTITUTION OF ORGANS.

AMONG the prime questions of the animal economy, there are few, if any, points of higher moment than that which concerns the relations existing between the vital powers and the molecular and chemical constitution of their organic instruments. We have at present a much clearer insight into these interdependencies than had hitherto ever been obtained. Thus, in the vegetative existence, we can distinctly trace the new organic matters introduced into the interior of the system through many, and in not a few instances, through all their manifold and important changes, till at length, having served their purpose, and constituted for a time a component part of the machine, they are cast out to be replaced by new supplies. That there is an incessant molecular destruction, or, to speak more correctly, mutation of the living body, is indeed no new truth, since it has been known from the infancy of science. "Life," to borrow the eloquent language of Cuvier, "is a continued vortex, of which the direction, all complex as it is, remains constant, as well as the kind of molecules propelled by it; but not so the individual molecules themselves, which change without cessation, so that the actual matter of a living body, although it is the depository of forces which will constrain future matter to march in the same direction with itself, will soon be there no longer."

But it is a very different thing to know the general fact of this eternal change, and to be able, as we now are, by the aid of organic chemistry, to trace each act of the metamorphosis; to be able precisely to define what becomes of the saccharine and fatty principles of the food; to be able to follow the albuminoid matters, the phosphorus, the earth, alkaline and metallic salts; to have a clear perception to what particular class of organs they go; how they are used up in the production of different kinds of force, or in the formation of various secretions; and finally, to find in the very débris and excreta of the body the sure and certain measure of the vital action itself. It is a great fact to know that no force is generated, that no heat is evolved, that no motor power is produced, that no nervous action takes place,—nay, that even no thought passes through the mind, without equivalent changes in the form of the organised materials of the frame.—*Mr. Grainger.*

BOOKS & PERIODICALS RECEIVED FOR REVIEW.

(The List will be given in our next No.)

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, April 21.

BIRTHS.	DEATHS.	*Av. of 5 Win.*
Males.... 679	Males.... 572	Males.... 592
Females.. 669	Females.. 517	Females.. 577
1348	1089	1169

CAUSES OF DEATH.		*Av. of 5 Spr.*
ALL CAUSES	1089	963
SPECIFIED CAUSES	1076	959
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*	248	198
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	52	48
3. Brain, Spinal Marrow, Nerves, and Senses	121	123
4. Heart and Bloodvessels	36	39
5. Lungs, and other Organs of Respiration	181	131
6. Stomach, Liver, and other Organs of Digestion	60	62
7. Diseases of the Kidneys, &c.	11	11
8. Childbirth, Diseases of the Uterus, &c.	11	8
9. Rheumatism, Diseases of the Bones, Joints, &c.	9	8
10. Skin	1	1
11. Old Age	35	50
12. Sudden deaths	13	11
13. Violence, Privation, Cold, &c.	35	33

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	12	Convulsions	45
Measles	21	Bronchitis	76
Scarlatina	38	Pneumonia	69
Hooping-cough	59	Phthisis	159
Diarrhœa	18	Dis. of Lungs, &c.	9
Cholera	1	Teething	7
Typhus	46		
Dropsy	24	Dis. of Stomach, &c.	7
		„ Liver, &c.	17
Hydrocephalus	34		
Apoplexy	31	Childbirth	5
Paralysis	17	Uterus	5

REMARKS.—The total number of deaths was 126 above the weekly spring average, the increase being chiefly due to the fatality of some of the zymotic diseases. It is worthy of note that there was only *one* death from cholera!

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 29·62
„ „ „ Thermometer^a ...... 37·1
Self-registering do.^{b} .... Max. 71° Min. 19°

^{a} From 12 observations daily. ^{b} Sun.

RAIN, in inches, 0·9.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 12°7 *below* the average of the month,—indicating a remarkable degree of cold for the season of the year. The self-registering thermometer, placed on the grass, actually fell so low as 19° on the nights of Friday the 20th and Saturday the 21st. The quantity of rain which fell also reached the full average.

NOTICES TO CORRESPONDENTS.

Notice.—In order to prevent delay in the insertion, it is particularly requested that all letters enclosing advertisements be marked on the outside "*Advertisement.*"

Mr. Davidson will perceive that the receipt of the work has been already acknowledged.

M. J. Sharp, Warrington.—1. At Greenwich Observatory. 2. The figure is an average of the whole fall during the week, from daily observations. 3. We will endeavour to comply with the request.

The space occupied in this number by Proceedings of Societies and Lectures, has rendered unavoidable, the postponement of several papers which are in type, including the Memorials on Medical Reform, and the Petition of Union Medical Officers.

Dr. Burgess's contribution was received too late for the present number.

The communications of Dr. Aikenhead and Dr. W. W. Williams (Gloucester) shall receive our early attention.

RECEIVED.—Mr. Lonsdale.—Dr. F. Winslow.—Dr. Binny.—The Wolverhampton Chronicle.

THE GENERAL INDEX.

We have to announce to our Subscribers that a GENERAL INDEX to the *first* 40 *Volumes* of the LONDON MEDICAL GAZETTE will, it is calculated, form a large Volume of about 700 pages. The cost of the INDEX VOLUME, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. WILSON AND OGILVY, 57, Skinner Street, will receive the Names of Subscribers.

Lectures.

LECTURES ON PRETERNATURAL AND COMPLEX PARTURITION.

By Edward W. Murphy, A.M. M.D.
Professor of Midwifery, University College, London.

Lecture XII.

Inversion of the Uterus—*Causes—pulling at the funis—shortness of the funis—Spontaneous inversion—Symptoms—Difficulty of diagnosis in some cases—Mr. Borret's case—Treatment—Mode of replacing the uterus—Question with regard to the separation of the placenta before or after restoring the uterus.*

Prolapse of the Funis—*Great proportionate mortality of infants—Descent of the funis before the rupture of the membranes not so dangerous—Prolapse when the waters are discharged in the first stage of labour—Prolapse in the second stage—Treatment—Delivery by the forceps—by turning—Reposition of the funis—with the fingers—the sponge (Osiander)—a bag (Mackenzie)—by means of a catheter—Michaeli's—Chailly—Steevens—Importance of immediate delivery if these means fail.*

Inversion of the uterus is a serious consequence of delivery, and is one which, more than any other, has reflected odium on the practitioner in midwifery; the most digraceful blunders, and the most frightful results, have been the effects of ignorance of the nature of this accident. The uterus, which, if properly managed, would have contracted in the usual manner, has been inverted solely because the attendant did not know how it ought to contract, and, by making violent efforts to draw down the placenta, drew down the uterus along with it. It has been left inverted so long that it could not be reduced—nay, it has been mistaken for the placenta, and absolutely torn away. In the black catalogue of fatalities from obstetric mismanagement, there are no cases so obviously chargeable to the incompetency of the accoucheur as those of inversion of the uterus. The nature of the accident should therefore be studied and understood.

The causes of inversion of the uterus are most usually traceable to violence, although sometimes the accident happens spontaneously. *Pulling at the funis* improperly is, perhaps, the most frequent cause. The placenta being retained, an attempt is made to separate it by pulling the cord: at first, perhaps, gently, by and bye with more force, and at length "a long pull and a strong pull" brings down the placenta and fundus uteri completely beyond the vulva. One example will be sufficient to show you how it is done:—"A patient, being averse to the presence of a medical man, insisted that she and the midwife 'could manage it' (that is, the delivery of the placenta) before he came. Acting on this impression, the two set to work, the woman clasping her fingers together, and pressing down with the palms of her hands applied over the fundus while making a bearing down effort; the midwife, on the other hand, at the same time pulling strongly and resolutely by the cord: and thus was the placenta delivered, accompanied by a gush of blood,"* with which the bed was saturated; the uterus was inverted, and the woman died before assistance could reach her. This is a striking case. More commonly, however, the mode of inverting the uterus is less obvious: the uterus is not at once drawn inside out by the funis, but the fundus is so depressed within the cavity of the uterus as to excite an irregular and inverted action of its fibres; an invagination of the uterus takes place just like an intestine, and the depression is more and more involved until the inversion is completed.

Shortness of the funis is assigned as a cause producing inversion, but I believe this very rarely happens: I never met with a funis so short as to prevent, when the head is expelled, the body from following it: eight or nine inches would be quite sufficient for this purpose, and it is very unusual to find the cord of less length than this. In the statistics of the Dublin Lying-in Hospital, there has not been a single case of inverted uterus in 71,000 cases, and there must have been several instances of short funis. Drs. Hardy and M'Clintock observe—"No example of acute inversio uteri has ever fallen under our notice, and the accumulated experience of Drs. Clarke, Labett, Collins, Kennedy, and Johnston, in this hospital, does not furnish a single instance of the occurrence of this accident, though the number of women delivered during their united masterships amounts to upwards of seventy-one thousand."†

Spontaneous inversion of the uterus sometimes happens. Mr. J. Clarkson relates an instructive case of this kind. Mr. Clarkson was called to a lady, aged 34, "a short stout woman, then in labour of her eleventh child. He found her walking about the house apparently very comfortable, having had but few pains, and those at long intervals, during the day. She informed me (Mr. C.) that all her other labours had been quick, and as the membranes had ruptured at three in the afternoon, nearly eight hours before my visit, she felt convinced that her labour would speedily be terminated. As she walked across the room I observed her abdomen unusually prominent, and suspected she might have twins; but in this I was mistaken. At my request she placed herself on the bed, so that an examination per vaginam might be made, when I discovered the head already low down in the cavity of the pelvis, the os uteri receded beyond reach of the finger, and the labia and perinæum soft and dilatable. As yet there had been no uterine contraction since I entered the room, but just as she was getting off the bed in order that it might be more comfortably prepared, a violent pain came on, and almost before I could apply my hand to the perinæum the child was expelled, and the placenta brought to the os externum by the continuance of the same pain. Having hastily tied and divided the funis, and removed the placenta (which was perfectly loose), I passed my finger to ascertain the condition of the os uteri, which I could feel high up, widely dilated, and embracing a soft, globular substance, which protruded through it and occupied the vagina. This I at first imagined was the bag of membranes belonging to the other fœtus I had suspected to be there. To satisfy myself, I placed my other hand on the abdomen, but, to my surprise, could feel nothing like the uterus there, although I made deep pressure for it."* Mr. Clarkson found that the uterus was partially inverted, and used the proper means to restore it to its place. This case illustrates the cause of this spontaneous inversion. The uterine fibres had evidently lost their tone, weakened by frequent pregnancies. The abdomen gave the uterus no support, the fundus projected prominently over the pelvis. The dilatation of the uterus, and the advance of the head into the pelvic cavity, caused no pain; but when the patient changed her position, so as to bring the pressure of the child more in the axis of the pelvis, a violent expulsive pain completed the delivery. The uterus was suddenly emptied of its contents, the fundus uteri was forced down within its cavity by the single expulsive effort, and the inversion produced. When the uterus is in this semi-flaccid state, the pressure of the superincumbent parts might readily cause a cup-shaped depression in the fundus when that pressure is increased by strong contractions of the abdominal muscles. The same cause that, in a healthy uterus, would effect more perfectly its regular and uniform contraction, may produce, in the atonic uterus, irregular contractions and inversions: hence it is possible that there are many cases of retained placenta from irregular contraction of the uterus, of after pains, and sometimes of hæmorrhage, the result of very partial inversion of the uterus when it is in this condition. This case also affords a good example of the source of some blunders that have been committed. Had it not been for the caution and intelligence of Mr. Clarkson, the woman might have been treated as having twins. Whenever this accident occurs, it is very important to recognise it at once, so as to prevent mischief, because delay always increases the danger.

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* Edinburgh Monthly Journal, June 1848.

† Hardy and M'Clintock's Practical Observations, p. 223.

The symptoms demand immediate attention. The inversion may be complete or incomplete. A complete inversion happening immediately after delivery can cause no difficulty. The uterus may be seen beyond the vulva, sensitive, and covered with blood, having, perhaps, the placenta attached to it. If a vaginal examination is necessary, the os uteri may be felt surrounding the neck of the tumor that is formed. The patient is prostrate from the effect of the accident, and the pulse, respiration, countenance, stomach,—all give evidence of the shock the constitution has received. When the inversion is incomplete, these symptoms are more progressive. Soon after the delivery the patient complains of a renewal of her labour pains: at first they are slight, and are mistaken for after pains, but soon become so violent, and are accompanied by such a sensation of forcing, that the patient imagines a second child is coming into the world. She is fortunate if her attendant does not fall into the same mistake,—confound the fundus of the uterus, as it is pressing into the vagina, with the head of the child, and proceed to assist the delivery. At length the fundus is forced beyond the vulva, and the inversion is immediately followed by the symptoms of nervous shock, rapid pulse, hurried respiration, coldness of surface, vomiting, and great anxiety. If the abdomen be examined above the pubis, the uterus cannot be traced. The surface of the tumor is generally covered with blood, but hæmorrhage may be only slight, or very profuse: there is a great variety in this respect. Cases have occurred without hæmorrhage, and where the placenta was peeled off the surface without any loss of blood. In other instances there was profuse hæmorrhage. Dr. Lever relates a case of fatal hæmorrhage which followed the separation of the placenta from an inverted uterus. Mr. Newenham has also observed hæmorrhage followed by immediate dissolution in such cases. Dr. Radford, on the contrary, has seldom found serious hæmorrhage, and has removed the placenta frequently with safety. This contradictory experience might, perhaps, be reconciled. If the uterus had lost its tonic contractility, and that it is inverted because it is too flaccid to retain its form under the force compressing it,—hæmorrhage, perhaps profuse, would be a natural consequence of this condition. If, on the other hand, there is no uterine inertia, but the fibres, through some violence, are made to assume an inverted action, the fundus of the uterus being drawn down partially, and by its contractions forced further in a wrong direction, until the inversion is completed,—in such a case it is likely that no hæmorrhage would take place, because the contraction of the uterus in this inverted position is just as great, if not greater, than in its natural situation, and therefore the effect on the uterine vessels must be the same. In fact, if this view be correct, the presence or absence of hæmorrhage would be governed by the same cause here as in a case where no such accident has happened. In both instances it would depend upon the presence or absence of an efficient uterine contraction.

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* Lancet, vol. ii. p. 406.

The uterus, when inverted immediately after delivery, cannot readily be mistaken for anything else: it is only when the immediate effects of the accident have passed away, and the uterus has remained for some time in its new position, that there may be a difficulty in determining its nature. It may then be easily mistaken for polypus: a large pyriform tumor, the neck of which is surrounded by the os uteri, bleeding readily, and not reducible, are characters common to both. The uterus, however, presents a rough surface, and it generally retains its irritability: when this is absent, the diagnosis is still more difficult.

Dr. Gooch relates an interesting case which will illustrate the difficulty of diagnosis. Mr. Borret, of Yarmouth, with whom, when this happened, Dr. Gooch was residing as a pupil, was called to a lady in labour of her sixth child. On his first examination he found a large fleshy tumor within the vagina. The anterior segment of the os uteri was easily felt, but the posterior was occupied and covered by the attachment of the tumor. After the orifice had dilated, and the membranes had burst, the head of the child not descending, Mr. Borret introduced his hand, brought down the feet, and extracted the child. The placenta was expelled spontaneously. The patient now being delivered and easy, he left her at seven in the morning. At three in the afternoon he found her in strong pains, as if there was another child; but as the abdomen was flat, and the contracted uterus could be distinctly felt in the abdomen, he was satisfied that there was not, and gave her an opiate. At eight o'clock at night he found that the pains continued violent, with the sensation as of a substance coming away, and, on examination, he discovered a soft round tumor pressing against the outer orifice. What could it be? He could have thought that it was the uterus inverted, but it was the same tumor which he had felt in the morning before the child was born: there was no hæmorrhage, the placenta had been expelled spontaneously, and the uterus was distinct in the hypogastric region. He consulted his medical friends in town, and sent off to Norwich for Mr. Rigby. The pains continued with violent expulsive efforts all night, and the next morning they found her with a languid pulse and a pallid countenance. A large fleshy livid tumor had been forced out of the vagina, and every pain brought it more and more in sight: she continued to suffer and sink through the rest of the day. In the evening Mr. Rigby arrived, but she expired about half an hour before. As soon as he arrived he examined the tumor, and was convinced that it was the inverted uterus. On opening the uterus next morning, the uterus was found contracted, but its orifice was dragged down as low as the external orifice by a tumor which grew from it by a thick stalk; it was attached to the posterior part of the orifice, and some way up the neck, was of a livid colour, and weighed three pounds fifteen ounces.*

The treatment is obvious: the uterus should be immediately replaced before the contraction of the uterine tissue becomes permanent, and may prevent it. Denman found it impossible to restore the uterus when four hours elapsed from the accident. If the inversion be irreducible, its treatment belongs to a different subject from that we are at present discussing. The mode of replacing it is somewhat similar to prolapsed uterus. The tumor is firmly compressed with both hands, and the centre of the fundus pushed upwards towards the pelvis by the fingers, forming a cone: when the reverted portion arrives within the pelvis, the difficulty of advancing it increases, because the uterus is so much folded on itself; but when the fundus passes this point, it flies back to its natural position, just like an Indian rubber bottle. Much of your success will depend upon your promptitude: the uterus should be returned quickly; but if there be much delay or violence, it may become impossible to do so. Recollect, therefore, the opposition which the perinæum may give you: it is necessary to press it back strongly while attempting the reduction, otherwise you might fancy the inversion was irreducible. When the placenta is attached to the uterus, it has become a disputed question whether it should be removed first or not. The bulk of the placenta is undoubtedly an impediment to the restoration of the uterus, but the danger to apprehend from its removal is hæmorrhage. Dr. Lever's case is a convincing proof of the risk of such an accident. For this reason Mr. Newnham and many experienced practitioners, strongly urge the importance of leaving the placenta undisturbed until the uterus is replaced. On the other hand, the experience of Dr. Radford and others has satisfied them that no hæmorrhage follows the separation of the placenta. I believe, as has been stated, that this depends upon the degree of contractility in the uterus at the time of accident. It would be a safer plan not to touch the placenta in the first instance if it were possible to return it with the uterus; but if this should prove difficult, some information of the condition of the uterus may be obtained by a careful examination of the tumor itself. It is generally covered with blood: let this be wiped off carefully, and observe the manner in which the vessels on the surface pour out their blood: if slowly and only guttatim, I think the placenta may be removed at once with perfect safety, and if so it is certainly much more convenient; but if, on the contrary, the surface is again rapidly covered with blood, the separation of the placenta would very likely increase the hæmorrhage to a dangerous, perhaps a fatal extent. When the uterus is restored to its situation, the hand should not be withdrawn suddenly, lest the fundus again descend. Firm pressure should be applied on the fundus externally through the abdomen, and when a uniform contraction of the uterus is secured, the hand will be expelled as it is withdrawn: a bandage should then be carefully applied, and the patient kept perfectly at rest for some time. A dose of ergot of rye would also be advisable, in order to secure the tonic contraction of the uterus more efficiently.

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* Gooch, Diseases of Females, p. 281-82.

Prolapse of the funis is another complication of labour that is calculated to reflect in no small degree on the practice of midwifery. The accident is extremely simple, the remedy perfectly obvious, and the effect on the child fatal if that remedy be not promptly applied. In many instances the funis descends, and the pulsation has ceased before the displacement is discovered: this may account in some degree for the great infant mortality that attends this complication; but still this is hardly a justification for the great proportion of deaths that take place. Dr. Churchill quotes 355 cases of prolapsed funis, in 220 of which the child was still-born—nearly two-thirds. It would therefore be extremely desirable if we had some means in our power of rendering this accident less fatal. The funis may present at any period of labour, either before or after the membranes have ruptured, in the first or in the second stage of labour. The cord cannot be exposed to any dangerous pressure so long as the membranes are entire: it is only when the waters are discharged, and the presenting part compresses the funis, that the child's life is hazarded: we meet with two varieties of this accident after the membranes are ruptured—1st, when the funis descends before the dilatation of the os uteri; 2d, when it presents in the second stage of labour after the dilatation is completed.

Prolapse of the funis in the first stage of labour is more difficult to manage than when the os uteri is fully dilated. It may be produced either by the sudden discharge of a large quantity of the liquor amnii, consequent upon an early and premature rupture of the membranes, or attend a preternatural displacement of the child. In either case, if the os uteri be but little dilated, we are placed in the dilemma either to sacrifice the child, or to attempt its removal by turning,—at best but a doubtful remedy under such circumstances, and one that may be hazardous to the mother, who is not placed in any danger by an accident of this kind. These cases are consequently the most fatal, because the practitioner is naturally reluctant to have recourse to so serious an operation as turning the child, when the certainty of danger to the mother is much greater than of safety to the child. It is only when turning is imperative, as in shoulder positions, that such an attempt is made if the funis pulsate.

Prolapse of the funis in the second stage of labour is more within reach of treatment, because the head may sometimes be removed by the forceps, the funis may be replaced, or the child delivered safely by turning, if the operation be promptly performed after the rupture of the membranes. In the majority of cases the pelvis is roomy, and will admit the forceps to be used without difficulty: there is no just reason, therefore, for withholding it when the life of the child is in such imminent danger; we might as well refuse our hand to a drowning man, and let him struggle out of danger the best way he could, as to leave a child to the natural efforts of the uterus under such circumstances. There are certain exceptions, however, when the pelvis is contracted irregularly, which would render the forceps a doubtful remedy. The head may become fixed in the brim of the pelvis, and yet the funis descend in the space afforded by the irregularity. In these instances the long forceps might certainly be used, but they very often fail in effecting the delivery: the only operation, therefore, that he could have recourse to in order to save the child is turning, and even this operation is by no means certain in its effect, because the funis is exposed to the risk of pressure during the whole operation; unless, indeed, it be protected by the projecting promontory of the sacrum.

In general, however, there is sufficient space in the pelvis to turn the child if necessary, and it appears to me that we are fully justified in giving the child this chance for its life, if we cannot otherwise save it. The practice of delivering the child either by the forceps or by turning, is adopted more decidedly on the continent than here, and with much greater success so far as the child is concerned. You may observe the results of these cases in the two great midwifery establishments of Dublin and Paris:—

	AUTHORITY	Total Cases.	Funis prolapsed.	Delivered living by								Child	
				Forceps.		Turning.		Funis replaced.		Natural.		Alive	Dead
Dublin Lying-in Hospital.	Dr. J. Clarke	10,387	66	—		—		—		—		17	49
	Dr. Collins	16,414	97	1		—		5		18		24	73
	Drs Hardy & M'Clintock	6,634	37	1		—		5		6		12	25
		33,435	200	2		—		10		24		53	147
Maternité, Paris.					D		D		D		D		
	Boivin . .	20,517	38	13	3	25	6	—	-	—	-	29	9
	Lachapelle .	22,243	24	3	1	6	2	10	-	5	D 5	16	8
		42,760	62	16	4	31	8	10	-	5	5	45	17

In the Maternité, the proportionate frequency of these cases is much less than in the Dublin Lying-in Hospital. In the latter there were 1 in 112; in the former, about 1 in 700 cases. In the Paris Hospital the child was generally delivered either by the forceps or turning, which was not the practice in Dublin, and the infant mortality seems consequently to have been greatly diminished. In order, however, to form a just estimate of the success of this practice, it would be desirable to know the results to the mother, which are not given in the French reports. In the Dublin Hospital there were no maternal deaths, and "none of the mothers sustained any injury in the delivery."* We are not told whether such was the case in the Maternité; which is a most important desideratum, because the risk to the mother is the objection raised against turning the child. Drs. Hardy and M'Clintock observe that "in the hospital the operation of turning was not had recourse to on such grounds (prolapsed funis), as Dr. Johnson considers that the probability of saving the child by this measure is not sufficiently great to justify its adoption, or to counterbalance the risk to which it exposes the mother." In the Dublin Hospital, also, a number of cases were admitted, having the funis already prolapsed and pulseless, and therefore beyond the reach of any treatment. Making every just allowance for these sources of error, I am very much disposed to think that we are too timid in refusing to follow the French practice. There is generally quite sufficient space in the pelvis to perform any operation you please with facility, and the time to interfere in a case of this kind is immediately after the membranes are ruptured—the most favourable moment for turning the child. I should, therefore, not hesitate to recommend you to deliver the child immediately that the funis descends, if you find it impossible to replace it.

The *re-position of the funis* is obviously a most desirable object to gain, and consequently several means have been proposed to accomplish it. The first and simplest is to attempt to replace the cord by the fingers. Drs. Hardy and M'Clintock have adopted it with success, and prefer it to the different contrivances which have been proposed. The plan they have been in the habit of pursuing is as follows:—"The patient is placed as much as possible across the bed, upon the side opposite to that on which the procidentia exists: thus, if it be toward the right sacro-iliac junction (as happened in nearly all the cases we have seen of this complication), she reclines on her left side, in the usual obstetric position; but if the descent has taken place at the left sacro-iliac symphysis, she is made to lie on her right side. This is the first point to be attended to: the next is the hand. In preferring one hand to the other, our object is to use that whose dorsal surface can most conveniently be kept near the sacrum; for much greater facility will be thereby obtained in accommodating the fingers to the concavity and direction of the pelvis. If, therefore, the woman be lying on her left side, the left hand is used; if on the opposite, the right hand. These preliminaries being arranged, the index and middle fingers are introduced into the vagina during an interval between the pains, and the funis is drawn gently forward, in order, if possible, to bring it to a shallow part of the pelvis. We then endeavour to pass it up, beginning with the most dependent portion, and afterwards elevating the remainder by little and little, until the whole has been pushed up out of reach of the fingers. In this way the reduction has sometimes been accomplished, although the os uteri was not dilated to more than half its extent. We have found in different cases, where the pulsation was vigorous in the cord, that although we could not elevate it fully above the head, yet that, by keeping the fingers steadily in their position for a few minutes, the entire coil has been drawn up. The impetus of the blood in the umbilical arteries, together with the lubricity of the parts concerned, may perhaps account for this occurrence."*

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* Collins, p. 346.

The late Sir R. Croft went a step further, and proposed to hook the cord over the limb of the child, which he twice succeeded in doing; but I fully agree with Burns' remark on this practice—"If the hand is to be introduced so far, it is better at once to turn the child."† Dr. Mackenzie proposed to enclose the prolapsed portion of the funis in a bag, and thus to return it. I have known this method succeed, but it is very awkward and inconvenient, and has more frequently failed. Osiander suggested a plan that has answered his expectations, and I have twice tried it with success: that is, to press up the funis with the fingers between the pains, and follow it with a sponge placed between the head and the pelvis. When the next pain comes on, an effort must be made to prevent the sponge being forced from the vagina: if you succeed, the funis escapes as the head passes the sponge, compressing it against the pelvis. Several attempts have been made to connect the cord to a long gum-elastic catheter, which may be pushed up beyond the point of pressure, carrying the cord along with it. Dr. Collins proposes this method: Professor Michaelis, of Kiel, put it in practice in the following manner:—A strong gum-elastic catheter of the largest size is selected, through which a soft ligature of tape or worsted is passed, having the loop of the ligature coming out at the upper extremity of the catheter. The catheter is introduced into the vagina, and the loop of the ligature, being passed through the coil of the funis, is brought down to the os externum by the finger: the catheter being also withdrawn, a stilette with a wooden handle is then introduced into it, so that its point may pass out at its upper orifice: the loop of the ligature is passed over the point, which is again withdrawn into the catheter, having the ligature hung upon it, and then pushed up to the end of the catheter. As soon as the loop is thus secured, the catheter is again introduced into the vagina to the funis, and, while doing so, the ends of the ligature are drawn, so that the loop is shortened and brought up to the upper orifice of the catheter having the funis within it. The cord, being thus secured, is passed by the catheter above the head. The ligature is detached as soon as the stilette is withdrawn. M. Chailly has proposed a different method of carrying out the same principle, which he states Champion (de Bar-le-Duc) has often practised with success. The manner of proceeding is as follows:—A ligature is loosely formed round the cord, which is attached to the eye of the catheter by passing the stilette through the ligature, and then pushing the stilette forward to the end of the catheter. Mr. Steevens has contrived a catheter for this purpose that is very ingenious. The stilette is made to pass quite through the catheter, so that about an inch of it can be made to project beyond the catheter. The extremity of the stilette is divided, and springs open as soon as it is pushed forward; the inner surfaces of the divided parts are made rough. The catheter is passed up to the funis, and a small portion of the membrane of the cord placed between the open extremities of the stilette; the stilette is then drawn within the catheter and secured by a screw at the opposite extremity; the forked extremity of the stilette is thus closed upon the membrane of the funis, and holds it. The catheter, with funis attached, is then pushed up beyond the head.

Of all these contrivances the last is the most ingenious, and would be the most useful if it could be made to answer its intended purpose: but I have found no small difficulty in getting the funis within the grasp of the stilette, in consequence of the lubricity of the funis rendering it very difficult to get so small a portion of the cord within the fork of the stilette. A modification of this instrument has occurred to me, which, I think, might obviate this incon-

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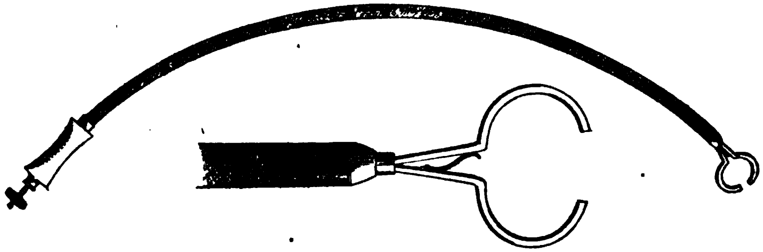
* On Midwifery and Puerperal Diseases, by Drs. Hardy and M'Clintock, p. 342-43.

† Principles of Midwifery, p. 433.

venience, and answer the purpose. I have had an instrument made, having the divided extremites of the stilette curved, so as to form segments of small circles. When the stilette is closed, these segments meet and form a ring, having an open space between them: when it is opened, the segments separate sufficiently apart to enable you to remove the instrument safely. The manner of using it is to pass the instrument up to the funis, having the stilette open: let the cord be placed between the segments, which may then be closed. In this manner the funis is, as it were, passed through a ring, which is pushed above the head. The circles should be made sufficiently small to hold the funis closely, but not so tightly as to interrupt the circulation in it.



If it were possible by this or any other such means to effect the re-position of the funis, a great object would be gained: we should be enabled in many instances to save a life that otherwise would be destroyed, and this without any apprehension on our mind of danger from the operation. But if our hopes in this respect are not realized—if we fail in replacing the cord—I would again repeat that we are bound to interfere: to deliver with the forceps if the head be at all within reach of its application; and, if not, to turn the child.

Original Communications.

EFFECTS OF CHLOROFORM AND STRONG CHLORIC ETHER

AS NARCOTIC AGENTS.

By John C. Warren, M.D.
One of the Surgeons of the Massachusetts General Hospital; and Author of "Etherization, with Surgical Remarks," &c.

[Concluded from page 717.]*

Part III.

The first of these trials of chloric ether was in March, 1848: between that time and the month of May, when I mentioned the subject to the American Medical Association, the strong chloric ether was used in fifty cases, with perfect success, so far as regards the narcotic influence, and without any unpleasant occurrence at the time or afterwards. The experience of that term has been confirmed by the observations of ten additional months: so that I now employ it almost exclusively.

It may be objected to the strong chloric ether—first, that it irritates the skin, as chloroform does; second, that it causes nausea; third, that it is, in fact, chloroform diluted with alcohol; fourth, that when chloric ether is administered by a wet sponge, the alcohol combines with the water in the sponge, and leaves chloroform to be inhaled.

In answer to the first objection, we should say that it is not necessary to use this ether in such way as to irritate the skin; also that the skin is easily protected by a cloth, and by various contrivances, particularly by rubbing the face with an unctuous substance previously; second, that the subsequent sickness, so far from being an objection, is an advantage,—for in patients who have experienced it, the lungs are at once relieved from congestion, and therefore they recover from narcotism more rapidly; third, the fact that it is chloroform diluted with alcohol, does not form any objection to its use, since the chloroform is sufficiently diluted to render its inhalation safe; fourth, the supposed decomposition of the strong chloric ether, in consequence of the combination of its alcohol with the water in the moist sponge, may be obviated by those who believe in such a combination, by administering the chloric ether on a handkerchief, towel, or other cloth not moistened. It is, however, probable that any portion of alcohol which combines with the water of the moist sponge, being reduced to the state of rum, the exhalations would enter the lungs with the chloroform, and help to dilute its narcotic property.

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* In reference to the case mentioned at the conclusion of the last paper, we may add that the patient was roused from his state of etherization after the operation, and recovered almost immediately. On the day following, he experienced some pain in the right hip, which had been moved during etherization; but the force applied to the left had not produced any pain or soreness. This happy immunity is to be attributed, I think, to the precursory bleeding.

It may be asked whether chloric ether has any advantage over sulphuric. In my opinion it has. It irritates the lungs less: its inhalation is more agreeable, and it never has produced headache in the operator and bystanders, as is the case in regard to many individuals from sulphuric ether. As to the narcotic power of the two articles, there seems to be but little difference.

The distinguished Mr. Lawrence is said to have used chloric ether in the summer of 1847, but whether that of commerce or the concentrated I am ignorant. The idea of using this agent was suggested to me by seeing the process of preparing the chloric ether of commerce, and the chloroform, by Mr. W. B. Little. Alcohol and chloride of lime being distilled together, the product of the distillation is the chloric ether of commerce; but a small quantity of the first product of distillation is much stronger than the aggregate. Taking, therefore, this first product, I made trial of it, as before mentioned, and found it produced a satisfactory narcotic effect. Mr. Little has since improved the process, and prepares his chloric ether in the following manner, as he has kindly informed me by letter:—

"Take the first run (that is, what passes first in distillation) when distilling chlorofoım, and redistil from water, containing an excess of lime, which gives a perfectly pure chloric ether, free from chlorine or any other impurity.

"We furnished Dr. Warren with different samples, until he was satisfied with the strength, and since then have uniformly made it of the same quality.

"Our 'concentrated chloric ether' contains 33½ per cent. pure chloroform, the remainder being nearly absolute alcohol, containing but 4 or 5 per cent. of water."

After this article had been employed in a considerable number of cases, the subject was brought forward (not by me) as already stated, at the meeting of the American Medical Association, at Baltimore, in 1848. Having used it myself, I felt bound to give to the association some account of its introduction, and of my reasons for using it. The President of the association, Dr. A. H. Stevens, called on me to furnish a copy of the remarks I made, for publication in their proceedings. This I did not wish to do at that time, because a longer experience seemed necessary, for the dangers of chloroform were not so fully established as to exclude the suspicion that they might have arisen from a careless use of the article.

Since that time, May 1848, the fatal cases have more than doubled. The apprehensions grounded on these occurrences have led me to use, in preference to chloroform, the ethers, either sulphuric or chloric, and five times out of six the chloric, employing the former only for the purpose of comparison with the latter. I have never seen or heard of any accident from the use of chloric ether which gave me reason for discontinuing it; and I think I can confidently recommend it to the profession, as more safe than chloroform, and more agreeable than sulphuric ether. Should any one preferring chloroform to the ethers feel disposed to employ this article in a diluted state, he might very properly add a certain portion of alcohol. I have used two parts of the purest alcohol with one part of chloroform, but have not sufficient experience of its effects to enable me to say that these are the best proportions.

There are cases in which chloroform will have an advantage. We find occasionally instances of a want of susceptibility to the narcotic action. In such, after trying in vain the use of ether, the more powerful impressions of chloroform have been resorted to with good effect. I cannot say, however, that this has occurred in my practice more than two or three times out of a great number of cases.

To the questions contained in the

letter at the beginning of these papers, and to those which have been addressed to me from other quarters, I now reply in a few words by stating—1st. That my confidence in the beneficial effects of ether in surgical operations is undiminished (but if I were compelled to substitute chloroform I should do so with much anxiety). 2d. Etherization is not, I think, employed so extensively as it was during the period of enthusiasm following the first inhalations of ether. The occurrence of fatal cases of chloroform has done much to cause a diminution of the use of ether, and the latter article has not been free from the charge of pernicious consequences. No fatal case from its use has transpired, however, in this country, nor in Great Britain, so far as we know: one well authenticated instance only has occurred in France.[*] The details of this case I am not able to give, further than to say that the patient was a male, resident in Auxerre, about forty years of age, who underwent an operation for cancer of the breast, and died in ten minutes. 3d. Chloroform or ether is used in this part of the country in all capital operations, and I believe pretty generally in such operations in other parts. In parturition, also, the former is extensively employed here; but a considerable number of practitioners use it rarely, and only in cases of extreme suffering. The relief from pain is uniformly said to be great, but whether the patient does as well on the whole after this narcotism is a doubtful point with me, confiding, as I do, in the power of nature to render this process generally perfect without the aid of art. In surgical operations there is every possible evidence that the chance of success is not diminished by etherization.

Means of remedying the bad effects incident to the chloroform and ether practice:—

1st. To use chloric or sulphuric ether for the purpose of producing narcotism in surgical operations in preference to any other agent. 2d. Not to use narcotism for trifling operations. 3d. Where the operation is not very severe and prolonged, to produce only that degree of narcotic influence which destroys the susceptibility to pain, without abolishing the intellectual functions. 4th. To be careful that the patient does not get an exclusive inhalation of the narcotic vapour, but obtains with it a sufficient quantity of atmospheric air to carry on the oxygenation of the blood; and when he is unpleasantly affected by the first impulse of this vapour not to press it too harshly upon him. 5th. When a powerful application is required, as in cases of the reduction of hip dislocation, the patient should always be bled before etherization. It is very desirable that a powerful narcotism should never be produced without previous abstraction of blood, except in cases of great debility. 6th. The respiration and pulse should be carefully watched during the whole operation by one in whom the operator can confide. 7th. When the pulse intermits, and respiration is suspended, inhalation should not be continued. 8th. The position of the body does not appear to exert a particularly unfavourable influence. Of the fatal cases, five occurred in the sitting posture, three in the horizontal, and one in a state of flexion forwards on a table. 9th. Whenever etherization is to be accomplished, there should be a sufficient number of assistants present to guard the patient if he should become violent. 10th. The exact quantity of ether inhaled has not appeared to me important. I have used it freely in a sponge or cloth, with the precaution above mentioned, of not applying it so closely as wholly to exclude atmospheric air. The fatal effects of chloroform in almost every instance have been produced by small quantities. 11th. To protect the face, a small towel is folded in a funnel-like shape, in the apex of which is placed a sponge, double the size of an egg, charged with an ounce of chloric ether; or the liquid may be poured directly on the interior of the cloth. 12th. Chloroform or ether should not be administered in cases of epilepsy, of active organic disease of the heart, of acute affection of the lungs, or in a hæmorrhagic tendency of these organs.

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[*] Dr. Snow, of London, one of the best writers on ether and chloroform, and a strong advocate for the latter, gives the following opinion on the supposed bad cases of ether, in the LONDON MEDICAL GAZETTE for November, 1848, page 841, note:—"I am aware that ether was thought by some to have caused death in two or three instances in which the patient did not recover from the operation, but died in two or three days afterwards; and in one of these instances a coroner's jury returned a verdict to that effect: but I believe the only instance on record in which the inhalation of ether was fatal was one that occurred in France (see Gaz. Médicale, 4 Mars, and MED. GAZ. p. 432, last vol.); and in that case the inhalation was continued without intermission for ten minutes, although alarming symptoms were present nearly all the time; and it is probable that the result was owing as much to some defect in the inhaler, which limited the supply of air, as to the effect of ether."

On the means of restoring the vital actions when suspended by chloroform or ether.

1st. When the pulse and respiration are suspended, the face should be dashed with cold water from a sponge; 2nd, a free passage of air be permitted to the patient's nostrils and mouth; 3rd, inflation through one of the nostrils by an inflating tube; or, if this is not at hand, by the bellows, the opposite nostril and the mouth being closed, and the larynx pressed backwards to prevent the air from going into the stomach; 4th, forced movements of the chest in imitation of respiration; 5th, friction of the chest, abdomen, and extremities; 6th, heat applied to the same parts; 7th, the nostrils to be stimulated with the vapour of aqua ammoniæ; 8th, the fauces irritated with a brush or quill feather dipped in aqua ammoniæ; 9th, the introduction of stimulating liquids into the stomach by a gum elastic tube; 10th, the use of galvanism, if an apparatus can be immediately obtained; 11th, inflation with oxygen gas of the nostrils and lungs; 12th, inflation of the lungs through an aperture between the thyroid and cricoid cartilages; 13th, a limited application of caustic ammonia to the region of the heart; 14th, convulsions to be treated by bleeding, vapour of ammonia, cold to the head: for the sudden production of the latter, evaporation of sulphuric ether answers well.

CONCLUSION.—I hope it will not be thought presumptuous in me to propose the substitution of the ethers, for an article, which, although so deleterious to some individuals, has been and is extensively used with others. My apology must be found in the reflection, that for more than a year before the introduction of chloroform, the ether practice was carried on without any fatal result,—that several fatal cases from chloroform have occurred in a much shorter space of time than that above mentioned, and a number of practitioners will feel absolutely compelled to abandon the employment of these anæsthetic agents, if chloroform be looked to as the principal. Moreover, the suggestion of a judicious friend will have its weight in forming this apology.

"Nor would it," he writes "alter my opinion of the wisdom of strongly urging the objections at this time, should longer experience show that the disasters in the use of chloroform during the year past arose from peculiar coincidences, and that it is in reality as safe as the sulphuric ether. In so grave a matter we should be willing to be proved *over*-cautious, rather than the contrary."

CONTRIBUTIONS
TO THE
PATHOLOGY OF THE SKIN.

By T. H. Burgess, M.D.

Translator of Cazenave's Manual of Diseases of the Skin.

[Continued from page 597.]

No. IV.

VESICULAR ERUPTIONS.

HERPES.—*Phlyctenodes, Circinnatus, and Zona, or the Shingles.*

THE serous or vesicular eruptions are, beyond question, the most frequent forms of cutaneous disease that the practitioner is likely to meet either in children or in adults. They are consequently those which require the student's first attention. The eruptions of herpes and eczema are commonly the results of constitutional disorder, and most frequently of reaction upon the skin from gastro-intestinal irritation. Although the form of the inflammation, and the structures involved in it, are nearly the same in both those diseases, yet how different are they in their duration, degree of intensity, and amenability to treatment! Herpes, with the exception of that variety called zona or the *shingles*, is, generally speaking, an exceedingly mild and evanescent eruption; but cases sometimes occur, especially of the phlyctenoid form, in which there is considerable general disturbance, and the symptoms altogether so strongly pronounced as to cause alarm to the patient and his friends. Yet the only danger that is likely to arise is from officious interference on the part of the attendants, by adopting what is called a vigorous and active line of treatment. The following case of herpes phlyctenodes, complicated with erythema, will serve to illustrate these observations:—M., aged 48, was admitted into the hospital of St. Louis, on the 14th of July, suffering from disorder of the stomach, with pain in the cardiac region, and vomiting after each meal. Two or three days previously, the left submaxillary region became swollen, engorged, and painful, and this was immediately followed by an aggravation of all the febrile symptoms.

The day after her admission the pulse was 84. She had frequent vomitings since the previous evening, of an abundant greenish matter, and also diarrhœa. The lungs were healthy. The submaxillary engorgement still continued to increase, attended by symptoms similar to those caused by the bite of a venomous insect. There was also, for the first time, considerable itching felt along the arm. The patient was ordered to be bled, to have an emollient injection, and lemonade for drink. She fainted twice during the course of the day. On the following morning the patient complained of pain in the throat, and difficulty of swallowing. The pharynx was red, and the submaxillary tumor swollen, on the apex of which had now formed a vesicle, of the size of a lentil, and containing a reddish sanguinolent fluid. The disease was supposed, from those appearances, to be malignant pustule, and was accordingly incised and cauterized with the butter of antimony.

From the 16th to the 20th, nothing worthy of note occurred; the tumor remained stationary, and the eschar was gradually detaching itself. On the 20th, however, pretty large round vesicles, containing a yellowish fluid, and surrounded by a red areola, appeared on the neck, left forearm, and thumb. At the same time was observed a circular red spot or disc on the external aspect of the right leg, in the centre of which might be felt a small round tumor, about the size of a nut, very similar to the appearance of erythema nodosum. The following morning the lower eyelid of the left side was much swollen, and of rather a livid tint. No vesicle, however, formed on it; but on the right side a vesicle was developed on an indurated base, and close to it several conical, papular-looking eminences, containing neither pus nor serum. On the chin and lower part of the face, two or three isolated vesicles were developed on a red and indurated base, and also several small groups of vesicles, clustered together, as in herpes, were noticed in the vicinity of these. On the right forearm, several vesicles, like those of varicella, seated on a base that was not indurated, nor presenting any discolouration, speedily appeared; and lower down, on the same extremity, a few scattered phlyctenæ were developed on a red and hardened base, accompanied by considerable tumefaction of the adjacent cellular tissue: even the palm of the hand did not escape; for both vesicles and phlyctenæ of some volume were developed in this region, which occasioned considerable pain and uneasiness, in consequence of the thickness and resistance of the integuments. The papular elevations, before mentioned, now became crowned each by a single vesicle. The vesicles had everywhere increased in volume and in number. On the lower extremities an eruption of small tumors appeared, varying in size from a cherry-stone to that of a peach; presenting, moreover, the colour, form, and consistence of erythema nodosum. These were not surmounted by vesicles. All those various eruptions were accompanied by great heat of skin, and a sensation of burning, of which the patient complained much. The pulse was 104. The patient complained of headache and constipation.

On the 22nd there was an exacerbation of all the symptoms, local as well as general. The pulse was 108, with considerable febrile disturbance. The different parts occupied by the erythematous patches were much swollen, and the colour more vivid. The transparent fluid of the bullæ had become sero-sanguinolent; the eyelids still tumefied and red, but free from vesicles. On the lower extremities the redness and sensibility of the skin increased in proportion as the tumefaction subsided; and wherever the eruption was developed, a painful heat of skin was always present. Acidulated lemonade, diet, and an emollient lavement, were prescribed. The disease remained stationary from this until the 26th, when the eruption on the limbs became sensibly diminished; but small groups of vesicles, resembling those of herpes labialis, and about thirty or forty in each group, were evolved on the red patches of the hands and forearms. They contained a rose-coloured serosity, and caused the epidermis to give way in several parts. In other places on the fore-arm the epidermis became elevated in circular patches, varying in size from that of a fourpenny-piece to that of a shilling; but those were not fully distended by serum. All the latter symptoms, however, were of but short duration, for they had scarcely appeared, when the general eruption began to decline rapidly, and with it these also. The burning heat of skin, febrile disturbance, and head symptoms, quickly subsided, and both the erythematous and vesicular eruptions disappeared in the ordinary manner, and without any further complication. The patient was discharged perfectly well on the thirty-ninth day from her admission into the hospital.

The foregoing case is certainly an unusually severe form of the vesicular disease, and one which the practitioner will not meet with frequently: it is therefore a good example of what simple measures will suffice for the cure of even the most aggravated form of herpes.

The following case of herpes circinnatus, and herpes iris, although of a milder character than the preceding, is also illustrative of the good effects of simple remedies in the treatment of the herpetic eruptions:—

A young girl, aged 17, whose general health was good, with blue eyes and fair delicate skin, was admitted into the hospital of St. Louis, under the care of M. Cazenave, on the 11th of February. A few days previous to her admission, and after great mental excitement, several irregularly formed erythematous patches appeared on the arm and fore-arm, unaccompanied by itching or febrile disturbance. Those patches were quickly covered by groups of vesicles, some few of which, scattered here and there, had become confluent. These vesicles generally assumed the circular form, or disc shape, the centre remaining sound, and the circumference composed of one continuous band of vesicles, or of several detached clusters, the vesicles being always extremely small, and containing a transparent serosity; the diameter of the whole being about that of a five-shilling piece: several of the smaller sized discs, however, were not complete, but coalescing with others in the neighbourhood, formed a kind of wreath or semicircle. Besides those, there was one disc different from all the rest on the inner aspect of the fore-arm, about the circumference of a shilling. The skin in the centre of this one, instead of being free, was covered by several concentric circles, enclosed by a dark circular fringe or border, of a similar tint to that of ecchymosis. In short, it was an isolated patch of herpes iris. Wherever the vesicles were developed, an erythematous blush of variable degrees of depth surrounded them. It was sometimes of a black or yellowish tint. Considering that the eruption presented so mild a character, and that it occurred accidentally, from violent mental emotion, M. Cazenave believed that it would yield to simple treatment, and accordingly he prescribed the acidulated lemonade daily, a gentle laxative occasionally, and the alkaline bath every alternate day.

Under this treatment the vesicles in a day or two began to shrivel and collapse. The contained fluid was partly absorbed and partly converted into round slightly convex squamæ. Wherever absorption of the fluid took place, a farinaceous exfoliation of the epidermis ensued. The discolouration, however, was slow in disappearing. It changed successively from red, or purple red, to brown, and then to a pale yellow, in which it became finally lost in the tint of the surrounding skin. Towards the decline of the eruption a peculiar symptom appeared, which is not usual in any form of herpes: a lively itching sensation manifested itself about the parts affected, of a *periodic* character, and which was especially aggravated towards evening. There was no itching during the early stages of the disease. The desquamation and discolouration, however, gradually subsided, and the patient was discharged perfectly cured on the 5th of March.

The two preceding cases are interesting, from the unusual severity of the symptoms in both, and from the several complications of the first related case, disguising the nature of the original eruption, and rendering the diagnosis difficult.

Generally speaking, herpes circinnatus is a mild affection compared even with herpes phlyctenodes, which resembles more herpes zona as regards severity of the symptoms. The former, however, in this instance was accompanied by erythematous inflammation, which is unusual in this form of the eruption, and by several peculiarities which this complication apparently gave rise to. Yet it will be seen that in both cases mild remedies sufficed to bring them to a successful termination; and this is one of the most important facts connected with them, for it cannot be too often repeated, that more evil is likely to occur from the adoption of a too vigorous plan of treatment, especially if revulsives be employed, than by leaving those herpetic eruptions to run their course unmolested, and trusting to the unaided efforts of Nature to right them.

The following case of herpes zona, or the *shingles*, came lately under my observation, and although the eruption was very extensively diffused, it succumbed under treatment similar to that adopted in the foregoing cases:—

A stout, healthy looking boy, aged 12, son of a policeman, residing at No. 8, Dover Street, Piccadilly, was brought to me, suffering from what his father called "a rash all over his body." It was as well marked a case of herpes zona as I have seen. The patient having suffered for several days from headache, pains in the limbs, rigors, alternated with great heat of skin, and general febrile disturbance, noticed the morning previous to his application for relief, an eruption about the length of his hand on the left side of his chest. It was accompanied by painful smarting, and great desire to scratch the part. The eruption continued to spread during this day and the following night. When I first saw the patient, several detached groups of vesicles, about the size of a pea, the great majority of which were filled with transparent fluid, and some desiccated, having been prematurely ruptured by the patient, extended in the form of a zone or semicircular belt from the left* shoulder and upper arm in a slanting direction across the chest, and round to the back, forming a little more than the half of a circle. The irregularly shaped patches on which the vesicles were developed, presented a bright red appearance, and the vivid colour extended some distance beyond the vesicular groups. The formation of those groups was invariably attended by a painful smarting sensation in the parts, and more or less febrile disturbance; but no symptoms of a grave character appeared during the progress of the eruption. A simple bath was ordered, a saline aperient, and the acidulated lemonade for ordinary drink; and under this mild treatment the patient got perfectly well in the course of ten days. There was no local application employed; for I consider remedies of this class more injurious than otherwise in such cases, especially those containing lead; the only external measures necessary being to keep the body moderately warm, so as to avoid chills, and to prevent as much as possible the rupture of the vesicles before they shall have arrived at maturity.

12, Half-Moon Street, Piccadilly,
April 23, 1849.

ON EPIGLOTTITIS.

By W. B. Kesteven, M.R.C.S.

Inflammation of the epiglottis is not met with except in connection with, or as the result of, inflammation of the larynx, tonsils, or fauces. It is deserving of particular notice as constituting an intractable and alarming complication of these affections. Its occurrence is not so rare but that it is a matter of surprise that writers on systematic medicine should have passed it over in silence.

The chief source of danger in epiglottitis consists in the insuperable difficulty it presents to deglutition, especially of fluids, as must be obvious from the anatomical and physiological relatives of the epiglottis. Not only does this circumstance incur danger to the patient indirectly from want of support, but directly also, from the impediment which it offers to the influence of remedies.

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* Herpes zona rarely appears on the left side. M. Cazenave states that it occurs in nineteen cases out of twenty on the right side of the body.

The two following cases present very distinctly all the most important characteristics of the disease, together with an illustration of the advantages to be obtained in point of treatment by a suitable local remedy, over the general measures which seemed formerly indicated, and were acted upon :—

CASE I.—T. E., æt. about 50 years, having suffered in the beginning of January of this year, from a common ulcerated sore-throat, which yielded to the usual treatment, experienced a severe relapse after premature exposure to cold. The pain and difficulty in swallowing were greatly increased, and in a few hours any attempt to swallow was followed by a sense of suffocation and a violent paroxysm of coughing. On looking into the mouth, the mucous membrane covering the entire palate and fauces was red and swollen, and presented all the characters of erysipelatous inflammation. When the root of the tongue was forcibly depressed, the epiglottis could be seen erect and swollen, in aspect resembling a ripe strawberry. The tongue was furred; there was great thirst; the pulse was 100, but soft.

My attention was immediately directed to the state of the epiglottis by the impossibility the patient experienced in swallowing liquids : this was also a prominent symptom in the case which I subjoin, and constitutes, as already observed, the diagnostic symptom of inflammation of the epiglottis.

The means adopted in the present instance were suggested to me by the perusal of a treatise on diseases of the throat, by Dr. Green, of New York. A solution of nitrate of silver, consisting of one drachm of the pure crystals, in an ounce of distilled water, was applied on a small piece of sponge fastened to the end of a whalebone-rod, and freely applied to the epiglottis and fauces. This was done at about eleven o'clock in the forenoon, and was, as may be supposed, attended by a very severe paroxysm of coughing. A blister plaster was also applied to the neck. The patient was strictly enjoined not to attempt to swallow anything.

At 8 o'clock in the evening the symptoms were all greatly relieved; at 10 o'clock of the same evening the epiglottis could no longer be seen, and swallowing was unattended by the distressing symptoms which had been witnessed in the morning. A few more applications of the nitrate of silver removed the inflammatory condition of the mucous membrane of the mouth and fauces, and in a short time the patient was convalescent.

CASE II.—Mrs. F. æt. 39, May, 1840: had been suffering for several days under what had been regarded as ordinary sore-throat. She experienced great pain and difficulty in swallowing, especially in attempting to swallow fluids: the effort produced a violent paroxysm of coughing, and threatened suffocation. By strongly depressing the root of the tongue, the epiglottis could be seen red and greatly swollen. Leeches were applied to the throat, and afterwards a blister, which was kept open for several days. For three days she swallowed absolutely *nothing*—not even her saliva; during these, and the seven following days, she was supported by enemata of beef-tea, milk, arrow-root, &c. It was not until after six days from my first seeing her that the inflammatory swelling of the epiglottis began to subside, and not until after the expiration of ten days that she could succeed in swallowing. It was then several weeks before she recovered her strength.

Dr. Burn, formerly physician to the Westminster Hospital, once saw this patient, who was related to him, with me, and fully concurred in the treatment adopted. Of this he was a competent judge, having given considerable attention to this rather rare form of disease, of which he had met with several cases, and which he recorded in one of the provincial journals.

These two cases are here collated as good examples of the characters of a not usually recognised disease, and as affording instances of the striking advantage derived from the method of treatment recommended by Dr. Green in other affections of the throat and larynx. The gratification with which, in a few hours after the application of the solution of nitrate of silver, all the symptoms were found so notably diminished, afforded a forcible contrast to the anxiety with which, nine years before, in the other case, I had for many days watched the patient's state with little hope of ultimately subduing the disease.

I have subsequently found a similar mode of treatment successful in the sore-throat to which clergymen are so particularly obnoxious. I should not hesitate to act upon Dr. Green's advice to use the same means in cases of laryngitis or croup not yielding at once to ordinary remedies. We know that tracheotomy almost always fails to save life when adopted at a late period in these diseases, and too often even when adopted an early period. In one case where I opened the trachea of a young man attacked with laryngitis, within twenty-four hours of its first appearance, the operation brought only twelve hours' prolongation of life: the lungs had become loaded with blood beyond their endurance, and were found congested and apoplectic.

Under such circumstances, a safe, powerful, and effectual remedy, is too great a boon to be neglected; while we have every reason to rely upon the representations of its value by the eminent authority already named, the preceding cases and observations, so far as they go, bear out his statement. They contain also the first record, so far as I am aware, of the treatment of this disease upon this novel plan.

Holloway, March 1849.

TARTARIZED ANTIMONY IN PNEUMONIA, &c.

In the Pennsylvania Hospital the violent contra-stimulant practice is not used; but the tartar emetic is frequently prescribed in non-nauseating doses. By two stout patients, affected with pneumonia, one-sixth of a grain every two hours was borne for several days together; but most generally one-eighth of a grain was found sufficient for the proper effect. In one case of chronic bronchitis, the continuance of this dose for a week or two induced slight gastritis.

In the winter of 1846-7, a number of cases of pneumonia, of which four were quite severe and one extremely violent, attacking both lungs, were treated successfully under Dr. Wood's direction, by the usual plan of free and sometimes repeated venesection, cupping, gentle purgation, and combinations of blue pill or calomel with ipecac. and opium, avoiding salivation. In the winter of 1847-8 not a single case of pneumonia occurred in the wards.—*American Journal of Medical Sciences.*

MEDICAL GAZETTE.

FRIDAY, MAY 4, 1849.

The facility with which the provisions of an act of Parliament may be nullified, when adverse to private interests, is proverbial. The wordiness of these documents, and the constant repetition of terms in the construction of the clauses, are commonly justified by lawyers, on the ground that without them they would be inoperative. Experience, however, shows that the operation of an act is actually defeated, despite their employment; and that while the meaning of the law is perplexing to those who have to obey it, there is no more security from the involved style in which the clauses are worded, than if the language of daily life had been employed. Acts of Parliament are more frequently interpreted by the *letter* than by the *spirit*: hence injustice is done, and the wrongdoer is just as free to carry out his schemes of fraud in this country, as if he were living in California, or under some model Icarian republic. A sort of legislative remedy is occasionally applied in the shape of "an act to amend an act," or of an act to amend and explain an "amended act;"* but as this is only a palliative mode of treatment, and does not attack the evil itself, the result is far from satisfactory. We admit that it is difficult, by the use of language in any shape, so to restrict the acts of persons, as to prevent in many instances the successful defiance of an act of Parliament. They who are not disposed to act conscientiously, may exercise greater cunning in evading, than others have employed in constructing the clauses of a statute; and, admitting the difficulty of binding unconscientious people by any written law whatever, it appears a just inference that an act of Parliament should be interpreted by its spirit rather than by its letter. This would at any rate put a check upon those who are inclined to take advantage of the ignorance, carelessness, or incompetency of the individuals by whom the act was drawn.

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* In Parliamentary practice an amended act signifies an act altered for the worse.

We are induced to make these remarks in consequence of an attempt which has been, so far successfully, made, to evade the spirit of the new Lunacy act (8th and 9th Victoria, chapter 100), in reference to the signing of medical certificates for the confinement of pauper lunatics. We do not at present make the names of the parties public, because our object is rather to direct attention to the evil, in order that it may be remedied in the proper quarter. The new Lunacy Act is a complex piece of legislation, consisting of 118 clauses: it received the Royal Assent in August 1845, and repealed all other acts for the regulation of the care and treatment of lunatics. A main feature of this measure is to prevent the confinement of lunatics from interested motives, a practice which there was great reason to believe had been until within a recent period very frequent in this country.

Under the 48th section, no pauper lunatic can be received into a licensed house without a lay order, signed either by a justice, or by a clergyman and the relieving officer or overseer of the Union or Parish to which the pauper belongs. This order is to the following effect:—"We, the undersigned, having called to our assistance a Physician (or Surgeon, or Apothecary, as the case may be), *not being the medical officer of the Parish or Union to which the said* A B belongs," &c. The 48th section also contains a proviso that the party signing the certificate must not be the medical officer of the Parish or Union, &c. The *medical* certificate, which is also required by the act, is so worded, that a person *not* qualified to practise, would by signing it render himself liable to an indictment for misdemeanor.

The following case has recently occurred. A respectable medical practitioner, who is the only surgeon, not a Union medical officer, residing in the district, attended a patient labouring under delusion likely to lead to suicide. As the patient was to be confined at the expense of the parish, the parochial medical officer was referred to, in order that this medical opinion might be corroborated. He agreed that confinement was requisite, and was informed that the patient had been already under the care of a medical practitioner, who was prepared to sign the necessary certificate. He, however, contended that, as a parochial medical officer, it was *his* privilege to sign it. When the prohibitory clause in the statute was pointed out to him, he said that his assistant, who was not a Union officer, should sign it: thus ingeniously contriving to keep the fee as part of the proceeds of his own practice. We say nothing of the gross impropriety of one medical man thus obtaining a fee through the patient of a professional brother to whom it equitably belonged; because the case is one of dry law, and must be dealt with as such. In such proceedings, conscience and equity are, of course, out of the question.

Now it appears to us that there has here been a violation of the spirit, if not of the letter, of the new Lunacy Act. There is an old legal maxim—"*Qui facit per alium facit per se.*" The assistant is not engaged in practice on his own account, but, legally speaking, as the servant of the parish-surgeon, and is bound, under pain of dismissal, to obey his orders. He is not in the condition of a free agent, nor can he act independently of the wishes or interests of his master. He attends pauper patients in a medical capacity, and thus acts *de facto* as medical officer of the Union for his master. To allow him, therefore, to sign a certificate for the confinement of a pauper, is tantamount to allowing the medical officer of the parish to sign it; and such a practice must obviously leave the door open to all those ancient abuses of this privilege of signing certificates, which by the new Lunacy Act it was the declared intention of the Legislature to abolish. The plain object of the statute is undoubtedly to prevent persons having any pecuniary interest in the confinement of a patient, from having a legal power to sign a certificate; and if the master be disqualified, the servant must also be disqualified. If this were not the meaning of the clause, two unscrupulous persons, profiting by each other's exertions, might lock up, as insane, an unlimited number of paupers, in order to procure the fees.

The clergyman and overseer who in this instance signed the lay certificate, acted contrary to the spirit of the statute in calling to their assistance the deputy and servant of a medical officer who was himself expressly prohibited from attaching his name to the document. They ought to have known that the prohibition was as strongly applicable to the servant as to the master; for although the former was not nominally medical officer, yet he exercised the functions of one, and he could act only by and under the control of the medical officer of the Union.

We need hardly observe, that if an assistant can act for the master, merely because assistants are not expressly prohibited from interfering, the provisions of the 45th, 49th, and other clauses of the act regarding the confinement of lunatics, will become a dead letter. Certificates for the confinement of private patients, must be signed by two physicians, surgeons, or apothecaries, not being in partnership; and they cannot be signed by any physician, surgeon, or apothecary, who, or whose father, brother, son, or partner, is wholly or partly the proprietor or a regular professional attendant in a licensed house, &c. Let us imagine that a surgeon signs a certificate for the confinement of a patient in an asylum in which his assistant, a qualified practitioner, was part proprietor, or regular professional attendant, is it to be contended that *this* would not be a violation of the act, and that the party signing the document would not be liable to an indictment for a misdemeanor? Under these circumstances, it is clear that the greatest abuses might take place by the collusion of master and assistant. They would be then permitted to do with impunity, what fathers, brothers, sons, or partners, could not attempt without rendering themselves liable to a prosecution.

The case on which we have here commented requires the immediate attention of the Commissioners of Lunacy.* Either let them allow the Medical Officers of Unions to break the law and sign certificates for paupers, or deny this privilege to their assistants, who must stand to the medical officers in the relation either of servants or partners, and are bound to them by a common interest. It would be most unreasonable to reject a certificate, because it was signed by *two partners*, and at the same time receive it when it was signed by a medical man and his assistant, who stands in a less independent relation to him, than a partner Our belief is that the act has been clearly violated. The assistant to the Parochial Officer who signed the certificate in this case, has been *untruly* described in the order for the reception of the Pauper patient; and the party who has received the lunatic is liable to an indictment for a misdemeanor under the 48th section of the statute. It is, we consider, the duty of the Commissioners of Lunacy to institute a prosecution, in order at once to put an end to that which must be regarded as a collusive evasion of the provisions of the Lunacy Act. They have, however, thrown this duty upon the Poor Law Commissioners.

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* We regret to learn, since these remarks were written, that, although the facts have been communicated to the Commissioners of Lunacy through their Secretary Mr. Lutwydge, they decline taking up the subject. They refer the applicant to the Poor Law Board. It is obvious that the Commissioners dislike the expense and trouble attending a prosecution.

ON OZONE IN THE ATMOSPHERE.

Professor Schonbein refutes the opinion of Betz, that the discolouration of the ozonometer depends on the action of light. His later experiments show that light has no such influence, and fully confirm his earlier results. In confirmation thereof, the following facts are given:—If water, discoloured by iodine or iodide of starch, be exposed to sun-light, it will be quickly acted upon, one portion of iodine combining with oxygen of the water to form iodic acid; another portion combining with hydrogen, to form hydriodic acid.

Strips of paper moistened with starch, mixed with iodide of potassium, and enclosed in air-tight flasks, were not discoloured, though exposed for a week to strong sunlight

Two similar strips of paper discoloured by an artificial ozone atmosphere (*e.g* phosphorus vapour) were suspended in separate air-tight flasks, holding a little water at the bottom to prevent the paper becoming dry; one flask was exposed to strong sun-light, the other was placed in a dark situation; the former was completely bleached in half an hour, while the latter retained its blue colour unimpaired.

Again, strips of paper prepared in the same manner exposed to the air during the darkness of night were deeply discoloured when ozone was in the air; at the same time that other strips enclosed in flasks, and placed in the same situations, remained as colourless as when first put out.

The preceding facts demonstrate that light has no share in producing the chemical changes which take place under the influence of ozone.—*Henle's Zeitschrift*, Vol. vii., part 2.

THE
LUMLEIAN LECTURES FOR 1849.

Delivered at the Royal College of Physicians, London,

By R. B. Todd, M.D. F.R.S.

ON THE PATHOLOGY AND TREATMENT OF CONVULSIVE DISEASES.

Lecture II.—*Continued.*

The next subject to which I shall beg your attention, is the Pathology of those convulsive affections, of which Tetanus is the type.

We have very satisfactory means of demonstrating that in tetanus the phenomena are dependent on a peculiar state of the nervous system, as it is so easy to produce all the phenomena by the application of stimulants to the spinal cord.

Thus by successive shocks from the magneto-electric machine, transmitted through the spinal cord, the state of tetanus may be produced, and it will remain for some time after the current has ceased to be transmitted. If similar shocks are passed through the chief nerve of a limb, a similar tetanic condition of the muscles immediately follows, but it ceases *instantly* the transmission of the current is discontinued.

So, also, the administration of a few grains of strychnia will produce tetanus; and in cold-blooded animals, as in the frog, opium will also develope tetanus, but in a less degree than strychnine.

The phenomena developed by the transmission of a rapid series of galvanic shocks through the spinal cord, are not to be produced by stimulating any other nervous centre in the same way. You may apply the galvanic power to any part of the brain, only keeping clear of the centre of implantation of the nerves, and you will fail to produce any tetanic phenomena whatever.

The most striking proofs may be obtained to show that the spinal cord is the seat of excitation in poisoning by strychnine. If you give an animal strychnine so as to produce tetanus, you may pith him, and yet the tetanic state will continue. Or in a cold-blooded animal (in which the nutrient actions, although more feeble, are more enduring), if you pith the animal first, and then administer strychnine, the tetanic state will nevertheless come on, and last for a considerable time; but the moment you destroy or remove the spinal cord, that instant all rigidity of muscles disappears, and the stiffened limbs become immediately relaxed.

And it is very remarkable that while, by the introduction of a minute quantity of a particular alkaloid, or, in cold-blooded animals, of opium into the blood, you can produce the state of tetanus with great facility,—it is very difficult, if not impossible, to obtain tetanic symptoms by wounds inflicted for that purpose, even in the most highly sensitive parts; a fact of much interest in reference to the frequent endemic occurrence of Tetanus, and of other convulsive affections of a tetanic kind, and tending to show that a particular state of the blood is favourable to the development of Tetanus.

The symptoms of Tetanus as it affects man and some of the lower animals, the horse for example, so precisely resemble those of the disease as it is artificially produced, that it is impossible to resist the conclusion, that not only the part of the nervous system affected, but also the nature of the affection, must be the same in both (if I may use the distinction), the artificial and the natural disease.

The part of the nervous system affected is clearly the spinal cord, and at least the greater part of its intracranial continuation, the medulla oblongata; and it seems highly probable that the anterior horns of the gray matter of the spinal cord and the centres of implantation of the encephalic nerves, are more particularly affected.

And the nature of the morbid process is not one of inflammation, nor does it arise out of any alteration in the *quantity* of blood flowing through the cord; it is not due to any congestive state, nor to any anæmic state: it consists of an exaltation in the special property of the nervous matter; an exaltation in the generating power of that portion of the great nervous battery in which the chief cerebro-spinal nerves are implanted: in short, it is a state of exalted polarity of that centre, produced either by the extension of a similar polar state, developed at the distal extremity of some nerve, or by some modification of the nutrition of the cord caused by the development in the blood of a material having similar properties to that of the alkaloid, strychnia.

Or, in the language of physics, the exalted polar state of the battery is due either to an altered condition of its generating and conducting plates, or to an increased activity of the fluid by which they are excited—perhaps, indeed, to both.

Such, then, is the pathology of Tetanus. A man receives a wound—this wound occasions an irritated, a polar state of certain nerves,—and this polar condition is communicated by a process of induction to the whole spinal cord, which, by some modification of the nutrition of the cord due to some altered state of blood, assumes that state the more readily, and retains it the longer.

Unless we admit that the blood has some share in the production of the phenomena, we shall fail in explaining the occurrence of Tetanus without injury, or the tetanus of infants, but more especially we shall fail in explaining its greater proneness to be developed in certain localities, or in certain states of atmosphere and climate.

And surely the fact to which I have already adverted, of the much greater facility of inducing this polar state of the spinal cord by the introduction of certain substances into the blood even in almost infinitesimal quantity, than by mere mechanical irritation of the nerves, strongly points to and favours the conclusion, that a change in the natural condition of the blood may greatly promote, if not wholly cause, the development of the tetanic state; and this change in the blood may be caused either by the introduction into it of some new material from without, or by the generation within it of some new matter possessing highly poisonous qualities.

All that I have said respecting the clinical history of the Trismus nascentium, and of Laryngismus stridulus, shows that these diseases must be precisely similar to tetanus in the essential points of their pathology.

The Trismus, indeed, is only a very acute form of Tetanus, and its endemic character, and its proneness to occur under circumstances unfavourable to free ventilation, and good general nutrition, are highly confirmatory of the view I have ventured to advocate of the probable influence of a morbid state of blood in promoting the polar state of the spinal cord and medullà oblongata.

Laryngismus differs from Tetanus in the fact that the polar state of the nervous centre is less permanent, and that the medulla oblongata is more affected than the spinal cord. In Tetanus, the spinal cord is more affected than the medulla oblongata. The proximity of the medulla oblongata to the centre of emotions, explains the extreme excitability of children suffering from Laryngismus by mental emotions.

In Laryngismus, there is nothing whatever of an inflammatory nature, nor is there anything of a congestive kind: it is most important that practitioners should be well impressed with this fact.

Whatever congestion may arise in the nervous centres is venous, and is caused by the convulsive paroxysms, which impede respiration, and consequently delay the return of the venous blood. It is, then, an effect and not a cause of the convulsive state.

We have in laryngismus only an exalted polarity of the nervous centres, caused either by peripheral irritation, as that of dentition, or by a morbid blood produced by imperfect feeding, artificial nursing, bad air, neglect of cleanliness, or associated with a highly scrofulous diathesis.

These views of the peculiar condition of the spinal cord in Tetanus and the allied affections were, so far as I know, first put forward by Dr. Marshall Hall, to whom science is under great obligation for the introduction of sounder views on many points in the application of physiology to pathology. That distinguished physiologist, with whom I regret to find myself at variance on many points, in an interesting and valuable essay on convulsive affections, makes these remarks:—"Tetanus and Hydrophobia consist in an induced spinal erethismus, the paroxysms consisting of augmented or excited spasm, from external excitants. The infant, under the influence of what I will designate the convulsive tendency, susceptibility, or erethismus, may therefore be compared to the patient attacked by tetanus. The causes are similar—irritated nerve, inducing spinal erethismus, and great susceptibility to excited reflex actions; the effects are analogous—tetanoid affections."

Hitherto the various plans of treatment pursued in Tetanus have received but a small amount of success. I am inclined to attribute their failure partly to the fact that practitioners have not sufficiently kept in view the important point, that death takes place, not by any disorganization of important vital organs, nor by the destruction of processes essential to life, but by the exhaustion consequent on the frequent renewal of the paroxysms of tetanic convulsion,—and partly, also, to this fact, that our treatment has been hitherto so empirical, that no definite plan seems ever carried out with sufficient fixedness of purpose in a sufficiently large number of cases.

The pathology and clinical history of Tetanus point out three objects which the practitioner ought constantly to keep in view in the treatment of it.

1. To support the strength of the patient as much as possible, so as to oppose the exhausting effect of the convulsive paroxysms.

2. To remove all possible sources of irritation or of depravation of the blood, in vitiated secretions, bad diet, impure air.

3. To diminish and reduce the exalted polarity of the nervous centres to their normal condition, and if possible, to effect this by means which will not exhaust or reduce the powers of the patient.

Now, the first indication is of primary importance: if the patient can be duly supported, we gain time, and we have abundant proof that the natural powers of the system are often capable of doing the rest without any assistance from art.

To accomplish this object, the practitioner should set himself diligently to devise means of giving nutriment and stimulants in the manner in which they may be most readily assimilated. As a general rule, this may be done best by giving them frequently, and in small quantities; and it is wonderful how much may be taken in this way if they are only administered with care and judgment.

Any process of depletion—by loss of blood, or by evacuants of any kind, carried to a great extent, would be highly objectionable, as being calculated to oppose the object in view.

In addition, then, to the various articles of food best adapted to the assimilating powers of the patient, and also to wine, or other alcoholic stimulants, the practitioner ought not to withhold the liberal use of quinine, ammonia, iron, or other drugs, which experience tells us exercise a tonic power over the system in general,—and he may give them in large doses.

The second point may be best attained by means calculated to promote the various natural secretions, especially those of the bowels, skin, and kidneys. But in administering remedies for these objects, care should be taken not to use those of a violent and irritating nature: drastic purgatives should be avoided; too profuse sweating or diuresis should be guarded against; and the practitioner should bear in mind that the object is to alter and improve, not to pull down.

To obtain the third object—namely, to reduce the polarity of the spinal cord, is at once the most important and most difficult. The various sedative remedies—opium, hydrocyanic acid, belladonna, conium, tobacco—have been fairly tried and failed. Opium is not a sedative to the spinal cord; its use in tetanus may be laid aside excepting in small doses as a sudorific. In cold-blooded animals it exalts the power of the spinal cord, and it is not impossible that in warm-blooded animals it may have a similar tendency: it is, therefore, a remedy of little value in tetanus, save as a sudorific, and in large doses it may be of an injurious tendency.

Neither is hydrocyanic acid a sedative to the spinal cord; on the contrary, it tends to produce epilepsy, and to excite the polar state of the cord by induction from the brain.

Belladonna has a decidedly sedative influence, but it disturbs the action of the brain so much, that it is not a safe or manageable remedy. The same may be said of conium. Tobacco undoubtedly reduces the polar state of the cord, but it produces at the same time a state of fearful depression. It is likewise an unsafe and not a manageable remedy. I have seen more than one patient die, *cured* of Tetanus, under this remedy.

There are two agents which certainly

exert a considerable power over the polarity of the spinal cord, which have not yet been tried sufficiently fairly, and which I think fully deserve to be put extensively to the test of experience. These are—cold and chloroform.

Of cold I can speak favourably from my own experience; I have tried it by the application of ice in ox gullets to the spine, taking care to renew them frequently. I have adopted this practice in Tetanus, and in convulsions in which the spinal cord was much involved, and in other more partial states of exalted polarity of the spinal cord, and with a sufficient amount of success to justify me in forming a very favourable opinion of the powers of cold as a depolarizing agent.

In order to give the remedy a fair trial, great vigilance is required on the part of the attendants of the patient to renew the bladders very frequently, otherwise they become elevated to the temperature of the body. This should never be permitted, as it is only by the long-continued application of cold that the spinal cord can be reached by it.

Another point which the practitioner who uses cold in this way must keep in view is, that when the cold fairly reaches the cord, its influence is shown by a marked depression of the action of the heart, which leads to general depression and debility. During the application of the bladders in this way, increased vigilance will be necessary in the administration frequently, and at short intervals, of nutritious and stimulant substances.

Sometimes the depression of the heart's action reaches a point below which it would be unsafe to suffer it to go. Under these circumstances the ice must be removed, and kept off until the heart in some degree recovers itself, when it may be resumed. Thus by removing and reapplying the bladders from time to time, the influence of the cold may be kept up sufficiently long to produce a favourable effect upon the cord without producing such an amount of depression as may operate to the disadvantage of the patient. But to carry out this plan great vigilance, and care, and judgment, will be needed on the part of the practitioner, in order that all precautions may be duly observed, and that the patient may be encouraged to persevere in the use of a remedy which involves some degree of personal discomfort.

Of chloroform, in tetanus or tetanoid affections, I have no experience. Two years ago, however, I performed some experiments, by which I satisfied myself that the analogous agent, ether, when introduced into the system by inhalation, exercised a most powerful controlling influence over the polar state of the cord, as induced by strychnine.

In these experiments I found that previous etherization retarded the polarising influence of the strychnine; and that, after poisoning by strychnine, life might be prolonged for a considerable time by the administration of ether.

A guinea-pig was thrown into tetanus by a quarter of a grain of strychnine: immediately the tetanic symptoms showed themselves, he was etherized; the state of tetanus immediately passed off; in a short time, however, it recurred, and was again controlled by ether: and by thus repeatedly etherizing the animal when the tetanic symptoms reappeared, life was prolonged for many hours, whereas another animal of the same size, and poisoned at the same time by the same dose, but not etherized, died rapidly.

These experiments illustrated in a very striking manner the antagonistic power which ether (and chloroform, as possessing identical virtues) can exert over the polarity of the cord. The great point which ought to engage the attention of practitioners in the application of these agents to the treatment of such cases as Tetanus, is to know how to avail themselves of its depolarizing power, and at the same time to guard against the injurious effects of its depressing influence. Chloroform weakens the force of the heart, —sometimes diminishing, at other times increasing the frequency of its action. Hence, while administering it in tetanus, we shall find it necessary to use with increased diligence the means calculated to uphold our patient's strength; and we must take care that the sleep of chloroform does not prove to him the sleep of death, by depriving him too long of those supplies which alone can counteract the destructive asthenia.

In the absence of any experience of the use of chloroform in tetanus, I should advise that a patient be not kept under its influence for any length of time, and that if, after the administration of it, and after its more profound effects have passed away, he should continue to sleep, the sleep should be interrupted at intervals of an hour or of half an hour, according to his strength, in order to administer support. If the patient does not sleep after the administration of the chloroform, and if the effects pass off, then it should be administered a second time, and a third time; after which several hours should elapse before it is again administered, and then it should be given in a similar manner, taking care that it be given not more frequently than at three, or, at most, four different periods in twenty-four hours.

These suggestions, however, are prior to experience: they want the support or the modification which observation only can give, and I should not venture to offer them were it not that it seems to me of great importance that we should not discard an agent so powerful as chloroform, against certain morbid states, without giving it fair play, sifting its merits and demerits, and employing it in various ways, so as, if possible, to secure the benefit of the former, and to guard against the disadvantages of the latter. In some of the cases of tetanus in which I have heard of chloroform being employed, it has seemed to me that the patient was kept too long under it at once,—that its renewal was at too short intervals,—and that sufficient precautions were not taken to counteract its depressing influence.

We have yet much to learn respecting the application of so powerful an agent as chloroform to the relief of nervous affections. But I dare say the time is not far distant when we shall be able to form a more exact judgment of its powers and applicability to these diseases. To those who are interested in this subject, I recommend the perusal of some interesting essays now in course of publication in the MEDICAL GAZETTE, by Dr. Snow.

The rapid course which trismus nascentium generally runs, and the feebleness of the little subjects of it, do not permit us to expect that we shall ever be more successful in the treatment of that fearfully acute tetanus than our predecessors. What we may really hope for is, that as careful attention to cleanliness and ventilation, and the early good management of the infant, has greatly diminished the number of cases of the disease,—so improvements in these respects may yet blot it out entirely from the list of ills to which the new-born infant is exposed.

The views of the pathology of the disease which I have endeavoured to advocate, suggest that the most promising mode of treatment is that by very frequent copious affusion of cold water, especially over the back and along the spine; such precautions being taken as may ensure the speedy restoration of the animal heat, and prevent its undue depression: such as good friction of the skin, quickly enveloping the infant in warm blankets after each affusion, maintaining a uniform temperature of the apartment, which, however, should at the same time be most carefully ventilated. To these should be added good feeding, and such attention to the state of the bowels as will secure the discharge of their contents without any active purging, which might prove an additional cause of exhaustion. Change of air would be most desirable, when it would be possible. But these cases run a course so rapid that it rarely happens that there is time for the adoption of such means.

Judging from the reports of cases as they are from time to time published in the medical journals, I would say that the views of practitioners are becoming pretty well agreed as to the most effective treatment for laryngismus stridulus. The points which should especially engage our attention, are—first, as to the best means of removing all sources of irritation; secondly, as to the most appropriate mode of promoting a healthy and vigorous nutrition; thirdly, the proper measures to adopt for diminishing that extreme excitability of the nervous system which keeps up the frequent repetition of the convulsive paroxysm.

It is very important that all sources of irritation should be removed as early as possible. What we most frequently find to excite irritation, are—accumulations or morbid secretions in the bowels, and the inflamed gums in dentition. The first may be easily removed by the action of purgatives, so regulated as not to impair the strength of the patient, nor themselves to act as irritants. Inflamed gums are likewise easily relieved by free incision with the gum lancet, which it may be necessary to repeat once or twice. But I must remark that the gum lancet must not be used indiscriminately; to many children the mere attempt to open their mouths occasions great disturbance,—nay, a greater disturbance than the inflamed gums which it is sought to relieve,—and it may excite a paroxysm which may prove fatal. Hence I hold that this operation ought not to be performed unless it be rendered absolutely necessary by *a really inflamed and swollen state of gums*. Under such circumstances, the relief to be obtained by the free division of the inflamed mucous membrane is frequently so immediate and so great, that we may legitimately encounter the risk which the operation occasions, in order to obtain so great a benefit. But where there is no inflammation of the gums, where it is plain that the teeth are not impeded in their advance by inflamed mucous membrane, no good can be obtained by the incisions.

Still more objectionable must be the practice of frequent or daily division of the gums: by such a procedure you expose the child to a daily repetition of a scene of great excitement, without any corresponding benefit. For what can be gained by such a practice? The teeth are not delayed in piercing the gums in consequence of any mechanical obstacle; their tardy progress is the result of a slow and inactive nutrition: in short, they grow slowly, and therefore are slow in cutting their way through the gum. Is it to be expected that the frequent repetition of the operation of cutting through the gums will hasten the growth of the young teeth? I think not: on the contrary, there appear to me to be some strong grounds for the apprehension that such operations may retard the growth, and injure the nutrition of the young teeth.

There are many cases, however, in which dental irritation does not exist; that is, in which there are no teeth exciting painful inflammation of the gums. In such cases there will not be any need for surgical interference with the mouth. But in these and in all cases the practitioner will have to apply himself diligently to devise the best mode of promoting a healthy and vigorous nutrition. And for this purpose he must attend to the quality of the food, its quantity, the manner in which it is given, the periods of feeding: on one or all of these points he will certainly find something to alter and amend. Either he will find that an infant is being brought up by hand when it ought to be nursed, or it is nursed too often, or with milk of bad quality, or it is fed in some imperfect manner.

Time would fail me, were I to enter upon the large and important subject of the best method of feeding infants. I must content myself with briefly referring to certain precautions which ought always to be taken, in order to insure to the child the full benefit of its food. First, it should be fed *slowly:* this rule, so important in the adult, is not less so in the infant; and the question, in cases where the infant is not nursed, between feeding with the bottle, by suction, or with the spoon, entirely turns upon this—whether, by the one or the other method, it is fed sufficiently slowly. The former mode is the preferable, as coming nearest to the mode of prehension most natural to the infant—that, namely, by suction; it is *objectionable*, as affording to careless nurses too easy opportunity of rapidly feeding the child.

A second point of importance is, that the child should not fast too long, and that too much food should not be given at each meal. Frequent meals carefully adjusted in quantity are undoubtedly best suited to the infantile economy, which is the seat of rapid growth, and therefore needs frequent supplies. Attention to the *rate* at which the food is administered will help in adjusting the quantity: a child fed slowly will take less food than one hastily and rapidly fed.

Lastly, the quality of the food should be determined mainly by the period of infancy, but also by the power of digestion evinced by each individual. Speaking generally, in the earliest periods the food should be simple and uniform: if the infant cannot be nursed by its mother or by a healthy wet-nurse, its food should be as nearly as possible assimilated to human milk. As the infant advances in life, farinaceous matters obtained from the flour of wheat, as containing gluten, should be gradually and cautiously added; and after the fourth or fifth month, gelatinous and albuminous matters derived from animal food may be given in small quantities.

But whilst the practitioner is carrying out these reforms in diet, he must not forget that he is urgently called on to diminish the frequency of the paroxysms. For this purpose he must cut off as much as possible all external causes or means of excitement, and he must adopt measures to diminish the excitability of the nervous system.

Let me here remark, that there are few occasions in which the practitioner stands more in need of that support which is so fully derived from confidence in himself and in his principles, than in the treatment of such a malady as laryngismus. The anxiety of parents, always great when a child is in danger, is wound up to its highest pitch when it is afflicted with a malady which threatens every moment to deprive him of life. They therefore naturally look most eagerly for the speedy adoption of the means which will mitigate the severity of the paroxysms, and diminish their frequency. Under these circumstances the practitioner must let it be seen that, while he is fully alive to the imminent danger in which his little patient is placed, he has a sufficient command of resources, and he is guided by certain principles of action, which he will carry out with decision and vigilance.

The plan of dashing cold water in the face, to avert an impending paroxysm, or to shorten an existing one, is generally attended with success, as regards the paroxysm. It is also, I think, useful in shortening the intervals between them, by diminishing the excitability of the cutaneous nerves. This dashing with cold water should be administered liberally and rapidly, notwithstanding the concomitant inconvenience of wetting the child's clothes. In some instances the operation of drying the child and putting on fresh clothes is itself useful. On similar principles, I find it very useful to have the child well sluiced with cold water night and morning, and sometimes even a third time in the day. A large quantity of cold water should be dashed *rapidly* upon the back and shoulders, and along the spine,—a moderate pitcher of water being *at once* emptied upon them. The value of the remedy is greatly enhanced by the suddenness of its application. In this suddenness consists the skill of its administration; and unless this be well done, it had better not be used. For this reason it is expedient that the practitioner should at first superintend its administration himself, and teach the nurse how to apply it.

The cold affusion not only diminishes the excitability of the cutaneous nerves; it likewise improves general vigour, stimulates the circulation of the skin, and consequently increases the action of that great emunctory, and contributes to promote a more healthy state of general nutrition.

If drugs are used, the most valuable (in addition to such purgatives as may be necessary to keep up a moderate action of the bowels) will be found to be those of the tonic and antispasmodic class. I have myself seen most advantage from the use of iron in combination with alkalies, potash, or ammonia. Assafœtida is extolled by some. Sir H. Marsh commends the old Tinctura fuliginis. The infusion of bark, the liquor cinchonæ of Battley, the tincture of bark, quinine itself (the chief objection to which is its intense bitterness of taste), will all prove more or less useful.

Depletion by bloodletting, whether general or local, may, I think, be completely discarded from the list of appliances at the command of the practitioner in the treatment of this malady. In most instances it may do great harm by impoverishing the blood, and increasing the excitability of the nerves, and weakening the patient. I have not met any cases in which it has appeared to be advisable, unless as a means of satisfying the prejudices of parents or others. The disease is clearly not inflammatory; all who have seen it on a large scale agree in this view: and whatever congestion may arise in the nervous centres is the result of the paroxysms, and not their cause. Some may think it advisable to use depletion for the relief of this congestion. Upon this point it is obviously impossible to lay down any general rule. In my own experience I have not met with any instance of congestion of this kind which has not been sufficiently easily relieved by purgatives and attention to diet.

Of all the remedies which are adapted to increase the tone and vigour of the nervous system, none is so potent as the exposure of the child to fresh air, especially to that of a locality different from that in which it had been accustomed to live. There are few who cannot bear testimony to the efficacy of this practice. In principle it should be carried out throughout the whole treatment of the case. The child should be kept if possible in an airy, well-ventilated apartment, of moderate temperature. Every thing like what is commonly called "coddling" should be avoided. The child should be lightly *but sufficiently* clad, and be kept free from all such articles of clothing as might in any way impede the superficial venous circulation, or interfere with the free action of the respiratory muscles. If complete change of air cannot be obtained, it is a good plan to take the child out daily in a carriage into the country, to some distance from its usual residence, where, if the weather be not too cold, it may be carried about in the open air.

Many practitioners have a fear of adopting the change of air system, lest the patient should incur the risk of bronchitis. This fear is, within certain limits, well founded. But I think it right to mention here, what I have not seen referred to elsewhere, namely, that one of these patients may have the physical signs of bronchitis without the disease. A spasmodic state of the bronchial muscles frequently coexists with the spasm of the glottis, often precedes it, and remains for a considerable time after it. This is accompanied by a generally diffused *ronchus*, such as would occur in bronchitis. It subsides immediately the general state of spasm subsides. Of these points I have had frequent opportunity of satisfying myself.

Children often fall into what I would call a *laryngismoid* state, *i. e.* a condition in which the tendency to laryngismus is manifest, with great nervous excitability. If the child cough, inspiration is attended with a croupy noise. Crying, or any forced respiratory act, exhibits similar phenomena. But no regular convulsive paroxysm occurs. In these cases great benefit is derived from daily exposure to the air, and from a treatment conducted upon the same plan as for the fully developed malady.

Such, then, are the principles and the plan of treatment of laryngismus. It is but just that I should mention that these views of the pathology and of the treatment of this disease have long been *practically* recognised by men of experience. The late Dr. Cheyne has left a brief but clear description of the disease, published thirty years ago; and I know no more accurate and clear account of the disease than that given by my friend Sir Henry Marsh, in the Dublin Hospital Reports, in 1830, where principles of treatment similar to those I have endeavoured to lay down, are inculcated. Dr. Marshall Hall has also ably illustrated the pathology of the disease, and given some judicious instructions for treating it. Some valuable practical remarks on the treatment of the disease were published by Dr. Roberton, of Manchester. And, lastly, a very able essay upon it has lately been published by Dr. James Reid, of this city, which is interspersed with excellent observations, both pathological and practical.

In my next lecture I shall discuss the pathology and treatment of epilepsy.

HÆMORRHAGE FROM LEECH BITES.

In obstinate hæmorrhage from leech bites, Dr. Maclellan (U. S.) advises, instead of a heated wire, that the glazed surface of a piece of visiting card should be pressed firmly on the skin. It possesses the advantages of giving no pain, and of leaving no scar.—*Amer. Journ. Med. Sciences.*

Reviews.

Facts and Observations in Medicine and Surgery; with additional Memoirs. By John Grantham, F.R.C.S. &c. 8vo. pp. 256, with Illustrations. London: Churchill. 1849.

Mr. Grantham has been at intervals a contributor to our pages, and the facts and observations contained in this volume are a reprint of his various papers, with such additional remarks and corrections as the lapse of time had rendered necessary. Professional men who accumulate facts, and faithfully record their experience, are the real benefactors of the profession. The author justly remarks in his preface, "Facts bear in themselves the properties of truth, the *materiel* (we object to foreign words when English can be found) of thought; and are not the less worthy (valuable?) for being unaccompanied by the ostentation of new hypotheses and theories."

In *Surgery*, there are several practical papers on the treatment of fractures and dislocations; and in *Medicine*, on insanity and hydrocephalus. The subjects are of a mixed character, and therefore do not admit of classification.

As a specimen of the author's style, we shall quote an extract from the section on the management of lunatics.

> "It may please the fine feelings of sympathy to state to the world that in this or that asylum the non-restraint system is followed, but to the practical man it is all sheer nonsense: why send a poor creature away from the endearments of home, if such a mild plan of operation would be safe? The question is not whether patients shall be bound by iron, wood, or leather; but it is, how are patients who possess not the rational will, to be *made* to undergo a proper mode of treatment? It is a standard principle in the treatment of lunacy never to threaten without performing; therefore, it is necessary to have power to act, and not to depend upon imperfect means. *Mechanical as well as medical treatment is necessary* in the treatment of mania. Suicide is not the crime to be dreaded in the violent maniac: it is the quiet hypochondriac who requires watching; he is generally artful and unsuspecting; distress is marked in his countenance, and he feels the indescribable pain of horror which in a moment impels him to the dreadful act; therefore mechanical restraint is not employed solely for the purpose of preventing self-destruction, but to prevent the patient, during a paroxysm of excitement, from injuring either himself or another, and also to enable the practitioner to administer medicaments so as to tranquillize the nervous system. It cannot be denied that cruelty has been inflicted on these poor people, for the purpose of saving labour and watching. It is no ordinary task to take the charge of a maniac; and if those who have advocated the self-styled non-restraint system have in any way been the means of increasing the number of attendants on the insane, they have conferred a great boon. It cannot be denied that in some cases it is almost impossible to keep the patient clean; and probably it is the injudicious mode of rendering a patient cleanly that constitutes one of the flagrant defects in the treatment of insanity. There is another cause, which too frequently irritates the temper of the keeper, and that is, the resistance on the part of the patient to take food. I have known a patient resist both solids and fluids for five days, and then refuse, so as to render it necessary to compel him to take liquids by pouring them through a funnel down one of the nostrils. Humanity pleads for mildness in the treatment of the insane, but humanity never should interfere with duty." (p. 142-4.)

Mr. Grantham keeps his promise in not diverging into long theoretical discussions; and while he instructs, he thereby saves the time of the reader. We recommend this volume to writers on medicine and surgery who desire to compare their own experience with that of others.

Insanity tested by Science, and shown to be a Disease rarely connected with permanent Organic Lesion of the Brain, &c. By C. M. Burnett, M.D. 8vo. pp. 107. London: Highley. 1848.

The title of this essay indicates that the author differs widely in opinion from a numerous class of pathologists who consider that insanity is generally connected with some lesion of the structure of the brain. Dr. Burnett's opinion is, that insanity is seated in the blood, and consists essentially in the vitiation of that fluid. Thus he observes—

> "We shall, then, at once proceed to show that both reason and science favour the idea that insanity is not, and ought not in the first instance, and often to the very last, to be regarded as a disease of the brain; but as a disease floating in the blood, having no fixed or local character, but producing the

morbid phenomena which are comprehended under the title of insanity: it arises from a derangement or mal-assimilation of those particular materials of the blood—carbon and phosphorus—which constitute the bulk of the elementary tissue of the brain and nervous system generally. When, therefore, we say we believe the disease to be in the blood, we consider it to exist there in the form of either deteriorated or wrongly constructed chemical components. In this sense it must be the *seat*, although Fletcher and Broussais consider it only in the light of the *vehicle* of the disease." (p. 5-6.)

In support of this hypothesis, it is necessary to show that physical lesions are not met with in the brains of the insane.

"Hysteria, catalepsy, chorea, hypochondriasis, epilepsy, idiocy, and similar affections terminating in insanity, and even mania and apoplexy itself, are constantly occurring in individuals whose brains after death present no semblance of disease. We ask, could this be possible if the phenomena which so often end in insanity, and which even indicate what we call its worst forms, were the result of structural disease in the brain? We think it could not. We suspect there is as much argument even where disease is actually present, as in cases of ramollissement of the brain, to show that that condition of the organ is not the result of inflammatory action as that it is. What few morbid appearances of the brain which are found to accompany insanity are, nine out of ten, to be referred to the venous system in that organ, thereby showing that even the mechanical detention of venous blood in the brain—a cause that may be acting for a long period of time upon the structure of the brain, so far as to derange its function, is not attended with such *alterations* of structure as we see so quickly follow inflammatory diseases. 'Between insanity and morbid alterations of the brain,' says Dr. M'Cormac, 'there seems no necessary connection. It is common to discover them after death, without any preceding mental disturbance, as well as to witness the brains of the insane without any appreciable lesion.'" (p. 13-14.)

From this it will be perceived that the author looks upon insanity as a purely functional disease.

In the second part of the volume, the author discusses the treatment of the insane. This he divides into Hygienic, Therapeutic, Moral, and Physical. Many of his remarks show a good practical view of the subject. He dwells strongly on the necessity of employing moral treatment, which he affirms is applicable to every stage of the disease, but especially to the early stage, and which should be conjoined with every other remedial measure employed. Dr. Burnett is strongly opposed to the new-fangled system of entirely abolishing restraint, and letting lunatics have their own way. One instance of the evils of this system has been lately brought to light, in the fact of one lunatic having murdered another in a non-restraint establishment. Dr. Burnett says—

"Nothing can exceed in absurdity the preposterous attempts that have been made to impose on the public mind the idea that the insane are treated without restraint. Why, the very building they are confined in belies the word non-restraint. Is it possible that the public really believe such a thing to be true? And still more, do they believe, even supposing it to be true, that it is a humane principle? Two causes seem to have conduced mainly to this popular delusion—viz. a desire to remove the evils which the old system of restraint had given rise to, and which had very properly produced the greatest disgust, and even horror, in the public mind; and a desire to substitute some plan that would attract notice by its antithesis to the one that had preceded. Without any practical knowledge of the success of such a plan, supposing it to be susceptible of application, according to the literal meaning of the word, the simple reflection that it comprehended a plan as ultra in its way as the whole extreme system of restraint, should put the public upon their guard before they seek to adopt it so universally, or believe that it can be said truthfully to be practical. We wish we could say that no evil had already arisen from what is called the non-restraint system. We believe it to be full of evil, as must every plan be that assumes to adopt an extreme method. Every branch of the science of medicine testifies that, when we hope for success, we must avoid extremes; and this rule has its advantages, we are fully persuaded, in the treatment of the insane.

"It is therefore a gratuitous and a disingenuous assertion to say there is no use in restraint; and those who use such expressions lay themselves open to one or other of these charges—either that they are ignorant of the nature of those remedies which they denounce, and which they are all the while hourly but unconsciously using, or else they are really practising a fraud upon their own consciences. This state of things cannot be permanent, and sooner or later the deception will yield to the forcible impulse of truth." (p. 95-96.)

In concluding our notice of this work, we may observe that, although in our view the theory of insanity, being a purely functional disorder, unaccompanied by physical lesion of the brain, is not satisfactorily made out, there are many parts of Dr. Burnett's treatise,—especially that which refers to the treatment of the insane,—which may be read with profit and instruction.

Proceedings of Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Tuesday, April 24, 1849.

DR. ADDISON, PRESIDENT.

Case of Foreign Body in the Bronchi. By SAMUEL SOLLY, F.R.S., Senior-Assistant Surgeon to St. Thomas's Hospital.

In this case a navigator drew into his windpipe the pebble which he had placed under his tongue to relieve thirst while working on the railway. He applied first to Mr. Passmore, of Pullin's Bar, who, after making him stand on his head, and taking other measures to relieve him, proposed the operation of tracheotomy; but the man preferred coming up to London. On his admission into St. Thomas's, under the care of the author, his condition is thus described.— When recumbent, and entirely at rest, he was free from cough and unconscious of the presence of the stone; but severe cough was induced if he moved about much, and he fancied the stone changed its position. He lay either on his back or right side; an attempt to turn on the left side producing great dyspnœa, with cough and impending suffocation: he referred to the position of the right bronchus as that occupied by the stone, and occasionally experienced a sore and pricking sensation at the same spot. On examining the chest with a stethoscope, the author found the respiratory murmur loud, but otherwise natural, on the left side. On the right, there was a loud cooing sound about four inches below the clavicle; below this, and over about three square inches, there was no respiratory murmur audible. These signs, however, varied, and at times the author could distinguish the sound accompanying the ingress of air at every part of the chest. Dr. Cohen found the respiratory murmur absent one inch beneath the nipple on the right side, whilst percussion elicited over the same part a clear sound. After the patient had been in the hospital a few days, he was bound to a table, inverted, the operator frequently striking him on the chest and back with his hand. The dyspnœa and spasmodic cough forbad the maintenance of this position beyond forty or fifty seconds. This inversion of the body having produced no effect on the position of the stone, it was determined to open the trachea, which was done, and the man again inverted without dislodging the stone; but severe bronchitis was produced, which was twice subdued by repeated cupping, and the use of mercury. At last, the patient suddenly left the hospital, and returning to Holloway, died eight days afterwards. Two days after he left the hospital, he was seized with a violent fit of coughing, and was nearly suffocated. He declared at this time that the stone had changed its position. He had three more convulsive fits shortly before his death; and the expectoration was very profuse through the last week of his life. The post-mortem examination, which was conducted without the author's knowledge, revealed extensive pleuritic inflammation and suppuration in the pleura on the left side, and abscess of the substance of the lung on the right side. The stone was firmly wedged in one of the first divisions of the left bronchus, but there was no ulceration of the mucous membrane or heart, indicating that it had been long resident there. It weighs 114 grains; its long axis being three-quarters of an inch, and its short axis half an inch. The author remarked that he was prepared to use forceps for the extraction of the stone; but as the introduction of a long steel probe produced such violent spasm, without affording any information as to the position of the foreign body, he did not consider himself justified in employing them. The form would have rendered it next to impracticable to have seized it with forceps, had the attempt been made. There seems no doubt that the fatal event was accelerated by the patient's returning to his accustomed stimulants after quitting the hospital. The author is further of opinion that the history of the case, and the post-mortem appearances, justify the assumption that the stone was ejected from its original position when the fit of spasmodic coughing came on two days after he left the hospital; and that it immediately passed into the left bronchus, where it was found after death.

Mr. Solly, in reference to the preparation which was exhibited to the Society, and in which the pebble was not in the bronchus, said that, when first examined, the pebble had been so firmly wedged in its position, that the tube required to be squeezed below in order to dislodge the stone. He regretted that no portion of the right lung had been sent with the preparation.

Mr. **Hilton** had seen two or three cases somewhat similar to the one detailed, and he regarded the case as of peculiar interest, from the presence of some symptoms which were absent in his own cases, and which symptoms he was at a loss to explain. For instance, he would allude to the sense of suffocation which presented itself on subverting the patient, and which, in the author's opinion, did not depend on the motion of the stone, as that was considered to have remained in the bronchus. He (Mr. Hilton) could only explain it by suspecting that the stone did really fall down into the larynx, and irritated the glottis. If this were not the fact, how did Mr. Solly explain the circumstance? He would also inquire the size of the opening into the trachea. How many rings of the trachea were divided; and could the extraneous body have passed through the wound? In the paper it was said that two or three of the rings were divided; could these be sufficient for the purpose he had mentioned? What course did the emphysema take? He thought an answer to this last query would determine the question as to whether the injury producing the emphysema were high up, or low down, and he related a case in support of this opinion.

Mr. B. **Phillips** said that the case detailed suggested a very important question with respect to the practice to be pursued in similar accidents. In Mr. Brunel's case, a principle which had been much relied on by Sir B. Brodie appeared to have suggested the employment of the same plan of treatment in the present case. He alluded to the opening made in the trachea, in order to prevent the cough and spasm which presented themselves when the coin came into contact with the larynx. In Mr. Brunel's case the coin passed out of the glottis without producing spasm. The plan pursued in this case, however successful, and however high the authority for the proceeding, was not, he would venture to say, as yet established. The case of Mr. Solly went to show that the plan was not always applicable or successful. In that case, was not the stone brought often into contact with the glottis? and did not spasm of a violent kind result? If this was so after the opening was made in the trachea, it was clear, as far as this case went, that the plan was not free from doubt as to its result, however much surgeons, since Mr. Brunel's case, seemed to rely upon it. It was clear, also, that foreign bodies in the air-passages were occasionally coughed up, through the glottis, without the occurrence of spasm. If he recollected rightly, soon after Mr. Brunel's case, an instance of the kind had occurred in the practice of Dr. Duncan, of Edinburgh. The patient had swallowed a coin of some kind; and on admission into the Infirmary, he was immediately inverted as were Mr. Brunel, and the coin was brought up without coughing at all. Many cases were also on record of tamarind-stones, cherry-stones, and other foreign bodies, remaining for weeks, and even months, in the air-passages, and which were eventually coughed up, without producing any distress in the patient. It was therefore by no means a settled point of practice, that all danger of suffocation was avoided by making an opening into the trachea.

Mr. **Solly** remarked, that the impression on the minds of all who saw his patient inverted was, that the position of the stone was in no degree changed. The distress occasioned by the subversion was considered to be due to the effects of this position on the cerebral circulation. It should be remarked, also, that although the cough was violent, it was not one indicative of a foreign body being in contact with the glottis. He had not opened the trachea with the idea that the foreign body did get into that passage, for he believed it never did. The opening made into the tube was about an inch in length, and quite sufficient for any body to pass through that could have got into the trachea at all. He had first made an incision only through two rings, but he subsequently included another ring, and this was amply sufficient for all purposes. He appealed to Mr. Arnott, who was present at the operation, on the point.

Mr. **Arnott** considered the opening made in the trachea quite large enough for the pebble to escape from, had it ever moved from its position. He believed, however, that it did not descend when the patient was subverted. He had seen the case previous to the performance of the operation, and he had certainly concluded that the stone was situated in the right bronchus. The opening was a proper proceeding, not only as a means of preventing suffocation, but to allow of the foreign body to escape if it had passed into the trachea. He did not regard the proceeding as one for the prevention of spasm, if the foreign body came into contact with the vocal cords. He believed that the pebble had changed its place into the left lung after the man had left the hospital, and at a time when he thought it had moved, as stated in the paper. He related the case of a man who had a coin in one of the bronchi; an opening was made in the trachea, some air escaped suddenly from the lung, the coin was moved thereby, and brought up.

Mr. **Coulson** said, that in the case which formed the subject of the paper read this evening, all who saw the patient seemed to be impressed with the opinion, that the new plan of opening the trachea, and endeavouring to dislodge the stone by inverting the body, was alone applicable to his relief; but as the attempt to dislodge the foreign body by this mode failed, it struck him that the old operation of trying to extract the stone by the forceps might have been resorted to. True, it was stated that the introduction of a probe or director into the trachea on one occasion was followed by spasm, but the attempt might have been repeated; and even in the spasm subsequent on such attempt—as in a case just mentioned—the foreign body is sometimes ejected. If every attempt to extract the stone with the forceps had been followed by spasm, he saw no reason why chloroform might not have been administered, by which the spasm, in all probability, would have been subdued. His own impression was, that the old operation should have been tried.

Dr. C. J. B. **Williams**, on examining the stone, said that it was just the shape and size to act as a valve, and become impacted in the bronchial tube. It presented the form of a wedge, and must have been very difficult to dislodge. It had remained so impacted for a sufficient length of time to produce bronchial, and subsequently pulmonary inflammation, and when dislodged from the left bronchus produced fatal disease in the opposite lung. It was a case not likely to occur again. He had always thought, in these cases, that a change soon took place in the lining membrane of the air-tube by the irritation caused by the foreign body. This irritation thickened the membrane, and therefore, the longer the foreign body remained unremoved, the more difficult it would be to dislodge it, or to get at it by an operation. The experiments of Magendie and Brodie had shown, that when the trachea was first opened its interior might be touched, and no spasm would be produced. It was only when a foreign body was passed up to the glottis that irritation exhibited its effects. If, however, the interior of the trachea were touched after it had been some time open, violent coughing and spasm were the result. So, if a foreign body were long detained in the air-passages, irritation, and probably inflammation, were the effects. It therefore behoved us, when a foreign body was found to be so situated,—and he believed the physical signs of such a condition were quite sufficient to determine it in almost all cases,—to take steps for its removal by operation; to get it away through the opening by means of forceps, or as in Mr. Brunel's case? He agreed with Mr. Arnott, that the object of the opening, in Mr. Brunel's case, was not to prevent contraction of the glottis, from the foreign body acting upon it, but to remove the fatal effects resulting from such contraction. He had proved this by experiment, for he had opened the trachea, and passed a body up to the glottis, and the opening in the trachea prevented that proceeding from proving fatal. One pathological fact had been illustrated in a striking manner by the case under discussion. It showed that irritation in the bronchial tubes was capable of producing disease in the substance of the lung, even to the establishment of vomica. He thought the same results might take place from long-continued bronchitis.

Dr. **Ogier Ward** spoke in praise of the use of emetics in cases where foreign bodies were in the air-passages, and related a case in which he had reason to believe a small bead had been ejected from one of the bronchi by this treatment.

Mr. **Erichsen** observed that it was important to determine whether an opening in the trachea really prevented irritation of the glottis, or not. He had certainly thought so, after the case of Mr. Brunel. He had, however, made experiments which, in their results, coincided with those made by Magendie. He had found, on introducing a foreign body through an opening in the trachea, that spasmodic cough was produced. This he had observed also in cases of cut throat. Instances, however, were on record, in which this irritability would appear to have been suspended. A case was related by Mr. Houston, in the *Dublin Journal*, in which such irritability was not present; and another case in which some blades of grass were passed through the glottis of a dog from an opening made in the trachea, without any visible effect. Now in those cases in which the foreign body remained a long time in the air-passages, was the irritability of the mucous membrane exhausted? Such continuance did exhaust the irritability in some mucous membranes. In some cases, also, irritability was removed by asphyxia, or by inflammation. If, in cases of a foreign body in the air-passages, we operated to relieve the breathing, then a small opening only was necessary; but if we made the incision with the expectation of the foreign body coming through it, of course it was necessary to make it larger. In Mr. Brunel's case, the coin passed through the glottis, breathing being carried on by the opening in the trachea. In *Guy's Hospital Reports* a case had been related by Mr. Cock, in which a sixpence passed from the air-passages during sleep, without any disturbance to the person. No tracheotomy had been performed. The coin had come out edgeways, as it had entered; and this was the way he (Mr. Erichsen) believed coins did come out when the operation was resorted to. This, however, was but a lucky accident, and it was better always to make an opening in the trachea large enough for the foreign body to escape from.

Dr. **Webster**, in reference to the remarks made by Mr. Phillips, respecting the period during which foreign bodies might be lodged in the bronchi, had many years ago met with a case, wherein a cherry-stone had remained sixty-eight days in the left bronchus. It produced inflammation and suppuration, when the cherry-stone was vomited up, with a large quantity of pus; after which the patient soon recovered. Tracheotomy was thought of, but it was not considered advisable, in consultation with several surgeons. Numerous cases of foreign bodies, which had accidentally got into the air-passages, are recorded by authors. Some of these he (Dr. Webster) would just mention, to show how long such substances might remain in the bronchi, without producing fatal consequences. For instance, Louis and Petit relate a case, where a piece of gold remained lodged in the trachea during four years, when the patient died phthisical. Royer Collard met with the case of a lunatic, at Charenton, who swallowed a nail an inch and a half long, with a large head. On examination after death, the nail was found sticking in the left bronchus. The lung was not injured, and only slightly inflamed; but the nail was very much oxidized, and covered with an animal matter, the centre of the nail being still hard; thus proving the foreign body had remained a long time in the lungs. M. Collard gives an account of another case, likewise in a maniac, at Charenton, who swallowed the bone of a mutton-chop, without producing any severe symptoms, or even inconvenience. Six years afterwards this patient died, without, however, any apparent pectoral disease. On dissection, the bone was found fixed in the bronchi, but there were no morbid appearances whatever in any part of the lung. He (Dr. Webster) might quote other cases, but would only now allude to two—viz. that of John Stevenson, an old Covenanter, whose life was published in 1728. This person swallowed a piece of bone, about the size of half a hazel-nut, which got into his bronchi, and produced much pectoral disease, like a decline. At the end of fourteen years and nine months the bone was expectorated, when the patient recovered. The other case was one which the late Mr. Barrow, of Davies Street, told him (Dr. Webster), being that of a gentleman he had attended for some time, with severe pectoral symptoms, so much like phthisis, that the patient was not expected to survive. However, early one morning he coughed up a piece of ginger, thickly encrusted with a hard mucous-looking matter, when recovery soon followed. On seeing the ginger, the patient told Mr. Barrow that formerly he often went to sleep with a piece of that substance in his mouth for a stomach complaint, and at the very commencement of his pulmonary affection he had done so, but missed the ginger in the morning, and he now had no doubt but it had then slipped into his windpipe, and produced all the subsequent symptoms. The cases now related, to which many others might be added, at least proved that foreign bodies might remain in the bronchi for a very long period, and were even ultimately got rid of without an operation. Regarding the case now detailed to the Society, he did not offer any opinion.

Mr. **Hewett** agreed with the last speaker, that in Mr. Brunel's case, the escape of the coin in the manner that it entered was due to accident entirely. A case of a similar kind had come into St. George's Hospital some time since. An omnibus conductor swallowed a fourpenny bit; he was close to St. Thomas's Hospital, and was taken in there. They turned him on his head; rapped him on the back and chest, and produced great coughing. He did not like these proceedings, and left the hospital. Finding afterwards that his voice became husky, he applied to St. George's Hospital. Mr. Hewett found him with irritation about the chest, and a roughened voice, but no obstruction to the health. He had attacks of bronchitis, and remained in the hospital. It was determined to operate upon him; but the day previous to that selected for the proceeding, he coughed up the coin. He (Mr. Hewett) did not agree with Dr. Williams that the stethoscope would always indicate the presence of a foreign body. It was not so in Mr. Brunel's case: it was not so in the case just detailed. It was interesting that in Mr. Solly's case there was a large abscess in the mediastinum, and pericarditis. Now were these changes the result of the influence of the foreign body; or did they exist previous to its presence in the air-passages? He asked these questions because he had heard of two cases of pericarditis, which had occurred after attempts had been made to remove foreign bodies from the bronchi by means of the forceps.

Mr. **Solly** said that the man in his case was well before swallowing the pebble.

Mr. **Macilwain** made some observations, the purport of which was to inculcate the prudence of making an incision in the trachea in cases of foreign bodies in the air-tubes, and to leave the rest to Nature. Officious and meddlesome surgery in these cases was injurious.

Dr. **Barber** spoke at some length, to show that all the physicians at St. Thomas's Hospital agreed in believing that a foreign body was impacted in the right bronchus, although they might have differed in describing the sounds that were present.

Mr. **Henry Lee** said that he believed

that the principle upon which this operation had first been introduced had not been fairly laid before the Society during the discussion. He believed that the operation had not in the first instance been introduced with a view either of allowing the foreign substance to escape through the opening, or with the idea that the glottis would no longer retain its irritability after the opening had been made; but he believed that the operation was undertaken with the view of allowing the patient to breathe during the time that the excitability of the muscles of the glottis was becoming exhausted. It was a principle recognised in surgery, that involuntary muscles, after a time, became less and less sensible to any stimulus which was applied to them; and if a foreign substance was allowed to remain a sufficiently long time in contact with the muscles of the glottis, they would gradually relax, and allow it to pass. The opening, he apprehended, was made for no other purpose than to allow the patient to breathe during the time that this was taking place. The treatment was fortunate, as well as judicious; but the good fortune which attended the operation ought not to be allowed to veil the judgment with which it was undertaken.

PATHOLOGICAL SOCIETY OF LONDON.

April 16, 1849.

C. Aston Key, Esq. in the Chair.

Dr. James Miller brought forward a case of

Trichina Spiralis observed in the Living Subject.

Elizabeth Harmer, æt. 49, during the early part of last month presented herself at the Western General Dispensary, with a circular, cupped, dense, and painful tumor, about the size of a shilling, springing from the left border of the tongue, near its root. In the neighbourhood of the base of the tumor some induration of the tongue existed, and severe pain was felt in the cheek, pharynx, and ear of the affected side. The countenance of the patient was care-worn, and her general appearance rather cachectic. Until the last two years her health had been very good; but latterly she had complained of a feeling of general debility. The tumor looking suspicious, and causing constant pain, its removal was recommended. She now came under the care of Mr. Anderson, who placed a ligature round the base of the tumor, carefully including all the indurated part.

Considerable hæmorrhage followed when the ligature had cut through the texture of the tongue; small portions were removed by the scalpel. In fragments taken from the cut portion, numerous trichinæ were discovered imbedded in a columnar structure, for the most part parallel, but very fragmentary. Dr. Miller failed to recognise in this at first the non-striated muscular fibre, until his ideas were corrected by a more precise examination of the tumor by Mr. Dalrymple, who considered this specimen no exception to the occurrence of the entozoon in muscular tissue being limited to the confines of the portions removed, which consisted apparently entirely of trichinæ and non-striated fibres.

The remainder of the portion removed merely consisted of normal mucous membrane, under which was some indurated matter in a state of advancing organisation: the case has some interest in the fact of this entozoon being noticed in the living subject, as well as its presence in the non-striated muscular fibre.

Dr. Peacock exhibited a specimen of

Disease of the Coronary Arteries and Fatty Degeneration of the Heart.

A female, 60 years of age, who had suffered from dyspnœa and symptoms of chronic bronchitis for six months, was admitted into the Royal Free Hospital in June 1847. She had never had rheumatic fever. When admitted she had a severe cough, and difficulty of breathing, and the lower extremities were œdematous. At intervals she had attacks of severe pain commencing in the region of the heart, or top of the sternum, and extending thence to the spine of the back, shoulders, and arms. This pain was accompanied with faintness, and a feeling of impending death. She was chiefly troubled with these attacks during the night, and died suddenly about three weeks after her reception. The state of the circulatory organs was repeatedly explored; but with the exception of some flatness of the second sound, no decided evidences of disease were detected in the heart. The pulse in the paroxysms was intermittent.

On examination, a mass of bony deposit was found in the right sinus of valsalva, which surrounded and contracted the orifice of the right coronary artery. The left coronary artery was converted into a cylinder of bone, for an inch and a half from its origin, and its cavity was entirely obstructed by a plug of decolourized, and evidently old lymph. The aortic valves were thickened, as was also the free fold of the mitral valve, but there was no material valvular disease. The walls of both ventricles had extensively undergone the fatty degeneration, and the surface of the heart was covered by a redundant deposit of fat. The organ weighed 14 oz. avoird. The aorta was dilated, and the lining membrane studded with atheromatous masses. The lungs were emphysematous, and the kidneys granular.

Also a specimen of

Endo-carditis; destruction of one of the aortic valves, and partial perforation of the septum of the ventricles—fatty degeneration.

A man, 32 years of age, who had led a very intemperate life, and had suffered from rheumatic fever ten or twelve years previously, was admitted into the Royal Free Hospital in June 1847. He stated that he had enjoyed good health since the former rheumatic attack, till six or seven weeks before, when he had a second seizure, which commenced with pain and swelling in the ankles. He, however, neglected these symptoms, and had not received any medical relief since his admission into the hospital. When first seen, he was evidently sinking; he was delirious at intervals, and at other times lay in a semi-comatose state. He had attacks of urgent difficulty of breathing, and was dropsical. The præcordial dull space extended beyond its natural limits, and a distinct purring tumor was then felt. There was also a double murmur heard most distinctly at the base. He died comatose two or three days after his admission.

On examination, the heart was found unusually large, weighing 16 ounces. There was some old lymph in the pericardium, but no appearances of recent inflammation. The posterior aortic semi-lunar valve was wholly destroyed, and the fibrous membrane and the undefended space at the base of the septum ventriculorum, adjacent to it, was destroyed, and the septum almost perforated; the only separation between the cavity of the left and that of the right ventricle being the lining membrane of the latter. This membrane was also much altered, being vascular and so soft as readily to give way when handled. The perforation at the base of the septum of the ventricle was surrounded on the side of the left ventricle by concretions of lymph, which were soft, reddish coloured, and evidently recently exuded. There was also fatty degeneration of the muscular substance of the walls of both ventricles, and this was most marked in the inner portions of the walls. The kidneys were in an advanced state of disease.

A NEW METHOD OF TREATMENT OF SANGUINEOUS TUMORS.

M. PETREQUIN distinguishes cysts containing blood, as the only true sanguineous tumors, from vascular growths of various kinds, and has made trial of several modes of treatment. He has found that the injection of the cyst with a strong solution of citric acid has effected a permanent cure. Under this treatment active inflammation is excited in the cyst, which promotes the absorption of the effused blood, and the tumor entirely disappears.—*Bulletin Général de Thérapeutique Médicale.*

Medical Trials and Inquests.

BAIL COURT.

April 19.

ACTION FOR MEDICINES AND MEDICAL ATTENDANCE.—DENIAL OF LIABILITY.

Watson v. *Wittam.*

THIS was an action brought to recover the sum of £48. 10s. 6d., being the amount claimed by the plaintiff for medicine and attendance as an apothecary.

It appeared that the defendant, who is a member of the legal profession, had lived during the years 1844 and 1845 with a woman, since dead, who went by his name and passed as his wife. During the period they lived together she had been in an ill state of health, and it was for attendance upon her that the sum demanded became due. The plaintiff put in several letters addressed to him by the defendant, requesting his attendance, and several lodging-house keepers, in whose houses the parties had at different times resided, proved that they had lived together as man and wife. A witness also proved that he had sold furniture to the lady, the price of which had been paid by Mr. Wittam.

The Jury gave a verdict for the full amount.

COURT OF COMMON PLEAS.

April 18th.

AGREEMENTS BETWEEN SURGEONS AND THEIR ASSISTANTS. IMPORTANT DECISION AS TO THE RESTRICTION OF THE LATTER FROM PRACTISING IN THE NEIGHBOURHOOD.

Sainter v. *Fergusson.*

THIS was an action tried at the last Chester Assizes before Mr. Justice Cresswell, in which a verdict was found for the plaintiff, damages £500.

Mr. Serjeant CHANNELL now moved, on behalf of the defendant, for a rule to show cause why the verdict should not be set aside, and a nonsuit entered; or why there should not be a new trial; or why the judgment should not be arrested.

It appeared that the plaintiff was a surgeon carrying on business at Macclesfield, and the defendant was his assistant; and on entering into that capacity had made an agreement with the plaintiff, for the breach of which the action had been brought. The declaration set out the agreement, which was as follows:—That, in consideration that Joseph Denbigh Sainter will engage me as assistant to him as a surgeon and apothecary, I, Wm. E. Fergusson, promise that I will not at any time practise in my own name, or in the names of any other persons in Macclesfield, or within seven miles thereof, under a penalty of £500. And I, the said Joseph Denbigh Sainter, do agree to engage the said Wm. E. Fergusson as assistant to me as a surgeon and apothecary on the terms aforesaid. The learned Serjeant contended, first, that the contract only restrained the defendant from practising *during such time as he should be in the employment of the plaintiff;* that the declaration was defective, because, although it showed that the plaintiff did engage him, it did not show that the plaintiff engaged him down to the time of the cause of action. Secondly, the agreement was *a void agreement, because it was in restraint of trade.* It was also void for want of mutuality, there being no consideration moving from the plaintiff. He referred to the notes to "Mitchell v. Reynolds," in the last edition of *Smith's Leading Cases.* The plaintiff, by the agreement, did not promise to employ the defendant for any certain time. He was not bound by the agreement to employ him at all. If so, there was no consideration from the plaintiff. (1 Cromp. and Jer. 331.)

The LORD CHIEF JUSTICE.—The terms import a general engagement, and the case of "Meesom and Collier" (in 12 *Moore's Reports*) shows that a general engagement of a servant is an engagement for 12 months.

Mr. Serjeant CHANNELL.—Although the Court will not enter into the adequacy of the consideration, yet there must be some consideration. "Pilkington v. Scott" (15 M. and W. 657.)

Mr. Justice CRESSWELL.—The terms of the agreement are left open to both parties. There is no specification of the time of service or of the rate of remuneration.

The COURT, in giving judgment, said, that in all cases of reasonable doubt it was material to grant a rule to show cause, but this was not such a case. As to the first point, whether the agreement was made on a good consideration, the stipulation in the agreement was only to take effect on the engagement being entered into, and then, by that engagement, the plaintiff, as it were, authenticated the defendant's competency to practise as a surgeon and apothecary amongst all his patients. The very fact, therefore, of such an engagement, for however short a time, would be an advantage to the defendant, and the adequacy of the consideration for the agreement on the defendant's part not to practise within seven miles of the plaintiff's practice, this Court could not enter into. It was but reasonable that the plaintiff should protect himself by some such arrangement. The Court thought *the agreement extended to any future time when the defendant might not be the plaintiff's assistant.* If the plaintiff did not after the agreement engage the defendant, the defendant was not restrained by it; if he did, the defendant was restrained by it. The agreement imported that they were afterwards to arrange as to the terms under which the defendant was to serve. The declaration averred that the plaintiff did afterwards engage him, and the Court must assume that that engagement was on terms satisfactory to both parties. As between the plaintiff and defendant, it was reasonable that the parties should be bound by their own contract; as between the plaintiff and the public, it was reasonable that a man should make a contract between another party and himself to protect himself from competition; and the protection stipulated for, that the defendant should not practise within seven miles of the plaintiff, was not unreasonable. As to the question of damages, they must be looked on, not as a penalty, but as liquidated damages agreed upon as an adequate security to protect the plaintiff.

Rule refused.

VALUE OF MEDICAL SERVICES IN THE TREATMENT OF CHOLERA.—ACTION AGAINST A BOARD OF GUARDIANS.

(Sittings at Nisi Prius, at Westminster, before Mr. Justice MAULE *and a Common Jury.)*

April 26th.

Bird v. M'Gahey.

IN this case Mr. Serjeant Wilkins and Mr. Atkinson appeared for the plaintiff; and Mr. Serjeant Byles and Mr. Howarth for the defendant.

The action was brought by the plaintiff, who is a surgeon, against the defendant, as the secretary of the board of guardians of the parish of St. Pancras, to recover the sum due to him for eighteen days' professional attendance upon the poor of the said parish.

Mr. Serjeant WILKINS said that the resistance which his client had met with to his demand reflected but little credit upon the board of guardians, who were the real defendants in this case. It would be fresh in the recollection of every one, that in the month of January last malignant cholera broke out in a certain establishment at Tooting, to which numbers of children from different parishes in London had been sent. On the appearance of the disease, the guardians were seized with consternation, and on the evening of the 5th of January, a Mr. Smith, one of the guardians of the parish, called on the plaintiff, informing him that the board had determined upon immediately removing their paupers from Tooting to their own workhouse, and requesting him to undertake the management of the sick who were to be thus removed. It appeared that Mr. Bird had had former dealings with the parish, in which he did not consider himself well used, and he therefore at first refused, alleging that he had his own practice to look after, and was therefore unable to give them his assistance. He was, however, prevailed upon to attend a meeting of the guardians on the following morning, where he found other medical men also, who had been summoned to assist in keeping under the disease. The plaintiff agreed after some time to attend for two days, saying his own business would not admit of his longer absence. On the following Tuesday there was another meeting of the guardians, and it was then arranged that he should continue his services, the entire management of the hospital being placed in his hands. He remained night and day in attendance at the hospital, being absent from his duty on two occasions for a short time only during the whole time (eighteen days) that he had the superintendence of the cholera patients. During this period 138 cases of cholera had come under his hands, of which nine only proved fatal. For his services on this occasion his demand against the board was £151. 4s., being after the rate of eight guineas *per diem*. Of this sum, £40 had been paid on account, and £16. 14s. had been paid into court since the action was brought, which would amount to the sum of three guineas *per diem* only, which it was contended on the other side was a fair remuneration for his services. The learned Serjeant contended that under all the circumstances, taking into consideration the loathsome nature of the disease the plaintiff was called upon to minister to, the risk he ran of infecting himself and his family, and the unavoidable neglect of his own business consequent upon such close attention to his new duties, the demand was a just and reasonable one.

A number of witnesses, amongst whom was the master of the workhouse of St. Pancras, proved the attendance of the plaintiff upon the occasion in question. It was also proved that he had an extensive practice of his own, and several medical gentlemen spoke as to the reasonableness of the plaintiff's demand.

For the defence it was attempted to show that the plaintiff had undertaken the management of the cholera hospital without naming any particular sum as a remuneration for his services, and leaving it entirely to the judgment of the board as to the sum to be paid him. It was also contended that the sum which he had already received was as much as he was justly and reasonably entitled to.

The learned JUDGE told the jury that it would be their duty—first, to consider whether there had been any agreement between the plaintiff and the board that he should be paid such a sum as they in their discretion should consider sufficient; and, secondly, what sum would be a fair remuneration for his exertions under all the circumstances.

The Jury, after some little deliberation, found a verdict for the plaintiff for £75. 12s. in addition to the sum already paid to him, being after the rate of seven guineas *per diem*.

⁂ This case is of some interest to those medical practitioners who are required in time of need to render extra services to parishes. The result is all the more satisfactory, because a *common* jury valued the services rendered by Mr. Bird at more than double the amount, assigned by the Board of Guardians.

Medical Intelligence.

MEDICAL REFORM.—PETITION OF THE NATIONAL INSTITUTE.

THE following Petition from the Council of the National Institute of Medicine, Surgery, and Midwifery, has been forwarded to Jas. Wyld, Esq., M.P., for presentation to the House of Commons:—

To the Honourable the Commons of the United Kingdom of Great Britain and Ireland, in Parliament assembled.

The petition of the undersigned Members of the Council of the National Institute of Medicine, Surgery, and Midwifery, humbly sheweth—

That evils have afflicted the Medical Profession in the United Kingdom, and have occasioned an agitation for Medical Reform of many years' duration, which are not only unabated, but are daily increasing; and that the profession is suffering at the present time, more than at any former period, from the imperfect, inconsistent, indefinite, and anomalous state of the laws by which it is governed.

That a reform in the laws has been advocated by the National Association of General Practitioners, and also by the National Institute, and the principles and more important details of such reform are in perfect accordance with the principles and plan of certain measures of Medical Reform proposed and agreed to by the representatives of Physicians, Surgeons, Apothecaries, and General Practitioners, in the Conference recently held in London, at the Royal College of Physicians, and to which the medical institutions of England, Ireland, and Scotland, have given a general assent; and that the proposed measures are eminently calculated to ameliorate all the more pressing grievances of which the profession so loudly and so justly complains.

That the principles above alluded to have been fully detailed in the "Outline of a Bill" for regulating the Profession of Physic and Surgery, drawn by the Conference, and which "Outline" is contained in the evidence taken, during the last Session of Parliament, before the Special Committee of your Honourable House, on "Medical Registration and Medical Law Amendment."

That the general agreement of so many influential bodies, not only in the principles, but in most of the more important details of a Bill for Medical Reform, and the pledges given by the Government to those bodies, have obviated difficulties in medical legislation otherwise insuperable, and afford, at the present moment, a fairer prospect than at any former period, of carrying such a Bill through the Legislature.

That in the existing state of the profession, no measure, however great its merits, can possibly meet with the full concurrence of every section or denomination of its members, and any plan that can be devised may be expected to meet with some opposition. That it is most inexpedient, however, on that account, to delay a measure calculated to benefit the great mass of the profession, and to effect a great public good.

That your Petitioners therefore respectfully, but earnestly, represent to your Honourable House the urgent necessity that exists for immediate legislation on the affairs of the Medical Profession; and they pray that a Bill for regulating the Profession of Physic and Surgery may, on public as well as on professional considerations, be enacted by the legislature with as little delay as possible.

And your Petitioners will ever pray, &c.

Peter Hood, 15, Lower Seymour Street, Portman Square; Jas. Stedman, Guildford; Geo. Stilwell, Epsom; Geo. J. Squibb, Orchard Street, Portman Square; Henry P. Fuller, 112, Piccadilly; John Propert, 6, New Cavendish Street, Portland Place; James Clayton, Percy Street, Bedford Square; James Bird, 16, Orchard Street, Portman Square; Edwd. Headland, 32, Guilford Street, Russell Square; Robt. Tanner, 56, Manchester Street, Manchester Square; Richd. Wallace, 9, John's Terrace, Hackney Road; Thos. Martin, Reigate; Emanuel Baker, 13, Bulstrode Street, Manchester Square; John Bowling, Hammersmith; Hamilton J. Jennings, West Drayton; John Mussey, 4, Cleveland Row, St. James's; John Sutton, Greenwich; Septimus Read, 41, Jewin Street, City; Wm. Anson Cartwright, Teignmouth; Geo. Webster, M.D., Dulwich; Wm. B. Vickers,, 32, Baker Street, Portman Square; Thos. Parker, Woburn; Robt. Dunn, Norfolk Street, Strand; John Liddle, 4, Alie Place, Goodman's Fields; Farnham Flower, Chilcompton; Richd. Southee, Cambridge; Wm. H. Garrington, Portsea; Geo. Gibson, Ulverstone; Thos. Herbert Barker, Bedford; Geo. Webster, Connaught Terrace; Nathl. Clifton, Cross Street, Islington; Edwd. Doubleday, Blackfriars Road; Charles M. Thompson, Westerham; James S. Daniel, Ramsgate; Chas. M. Burnett, Alton; John Prankerd, Longport; Wm. Chaldecott, Dorking; George Drummond, Brighton; Henry Ancell, Norfolk Crescent, Hyde Park; John Spence, Manchester; Wm. Collyns, Kenton, Exeter; John R. Keele, Southampton; Horatio G. Day, Isleworth; Geo. Robins, Covent Garden; Thos. Paget, Leicester; Thos. Porter, 145, Bishopsgate Street; Wm. E. Snow, 26, Tredegar Square; Thos. Nicolson, 50, Davies Street, Berkeley Square; Isaac Hurst, Bedford; Edward Westall, Croydon; Edward Tegart, 25, Dover Street, Piccadilly; John B. Eyles, St. Andrew's Court, Holborn Hill.

MEMORIAL OF THE GLOUCESTERSHIRE MEDICAL ASSOCIATION.

To the Right Honourable Sir George Grey, Bart. M.P., Her Majesty's Secretary of State, &c.

The Memorial of the Council of the Gloucestershire Medical and Surgical Association sheweth—

That your Memorialists, in conjunction with the Members of the Association which they represent, have for many years taken a deep interest in the important question of Medical Reform, and have, from time to time, memorialized the Crown and the Government on this subject.

Your Memorialists are of opinion that one of the evils of the medical profession is the number of corporate bodies empowered to grant diplomas and licenses,—that the Colleges of Physicians and Surgeons of England, if *rightly* organized, are sufficient for the requirements of the profession and the public in this country.

That the proposed creation of a new Institution for the enrolment of General Practitioners, is uncalled for by any necessity, and that the establishment of another College, whilst it would increase the *existing evil of corporate monopoly*, would fail to effect the objects for which it was concerted.

That your Memorialists have read with much satisfaction a memorial presented to you by the medical men of Manchester, in reference to certain "Outlines of a Bill" for the regulation of physic and surgery, proposed by a conference of parties representing the Metropolitan Corporations and the National Institute.

Your Memorialists desire to record their approbation of the views and principles embodied in the *Manchester Memorial*, and they respectfully urge their truthfulness and importance upon your serious consideration.

Signed on behalf of the Council of the Gloucestershire Medical and Surgical Association.

THOMAS WRIGHT, M.D.,
President.
JOHN W. WILTON, F.R.C.S.
Secretary.

Gloucester, April 12th, 1849.

THE MANCHESTER MEMORIAL ON MEDICAL LEGISLATION.

SIR,—A meeting of members of the profession who hold the degree of M.D., and are engaged in general practice, took place on Saturday the 14th instant, at the St. James's Coffee House, in this city, to consider the provisions of the Medical Reform Bill about to be laid before Parliament, and the proposed new Charter to the London College of Physicians.

Dr. J. G. HARRISON was voted to the Chair; and, after the objects of the meeting had been fully explained, it was proposed by Dr. Aikenhead, seconded by Dr. Sinclair, and carried unanimously,—

That the following Memorial be presented to Sir George Grey, Bart., Her Majesty's Secretary of State for the Home Department:—

To the Right Hon. Sir George Grey, Bart. Her Majesty's Secretary of State for the Home Department, the Memorial of the undersigned Medical Practitioners, resident in Manchester and the vicinity thereof:—

RESPECTFULLY SHEWETH,—

That your Memorialists, concurring in the general tenour of the address recently presented to you by the medical practitioners of this city, would now draw your attention to some of the details of the proposed measure of Medical Reform, which they conceive will operate injuriously to their interests.

That your Memorialists, having in addition to their Surgical Diploma, obtained the degree of Doctor of Medicine from Universities legally empowered to confer the same,—have been engaged for many years as General Practitioners of Medicine, and have uninterruptedly used their academic title without violating any known law or custom.

That your Memorialists, having seen the "Outlines of a Bill for regulating the Profession of Physic and Surgery," which it is stated has been submitted to you by "a conference of delegates from the principal Medical Corporations of London, and the National Institute, as likely to be acceptable to the profession at large," find that by the provisions of that Bill, every medical practitioner who has obtained the degree of Doctor of Medicine is precluded from, and is rendered liable to a penalty for, using his academic title, unless he be registered as a "Physician."

That your Memorialists strongly object to the enactment of these provisions, as infringing on their rights as University Graduates, and as tending to check the education of medical men in the hugher departments of the profession. By the regulations of the Army, Navy, and East India Company's Medical Reports, a favourable consideration is to be given to gentlemen who hold the degree of M.D.; whereas by this Bill, those who intend to engage in civil general practice, will be discouraged from entering on the prolonged term of education, and more extended course of study necessary to obtain the degree in the British Universities.

That your Memorialists find this absurd anomaly existing in the Bill;—that while every General Practitioner in Scotland and Ireland who has obtained the degree of M.D. will be permitted to use his academic title without any restriction whatever,—the possessor of the same degree in England, in order, it is said, to distinguish the pure Physician from the General Practitioner, will be liable to punishment should he presume to use that title which he has honourably obtained by examination after protracted study, and by payment of a large sum to the government in the form of stamp duty.

That whatever course it may be deemed expedient to adopt for the future, your Memorialists would strongly remonstrate against the restrictive clauses of this Bill being extended to those already engaged in practice. They conceive that the enactment of any *ex post facto* law, which would deprive them of a single right or privilege, would violate every principle of equitable legislation.

That your Memorialists have learnt that by the new Charter which it is proposed to confer on the London College of Physicians, every British Graduate in Medicine who has given up the practice of pharmacy, and who practises medicine only, may be admitted a member of the London College of Physicians, and may register as a physician, without any examination, provided such admission and registration take place within twelve months of the grant of the Charter; but that if the application for admission be delayed beyond this period, every applicant will be required to undergo another examination before, and to pay an admission fee of fifteen guineas to, the London College of Physicians.

That your Memorialists on entering the profession contemplated ultimately practising as Physicians,—that their general and special education was conducted with this view; and that by the proposed Charter, they are recognised as qualified Physicians if they register as such within the year of grace: yet, should they continue for a few years longer to cultivate their art in the extended field of general practice, they are declared by this same Charter *unqualified* to act as Physicians, except on submitting to the degradation of a fresh examination, and being mulcted in another fee,—a conclusion so utterly opposed to common sense, that your Memorialists can regard this scheme only as another instance of the exclusive spirit and selfish policy of the London College of Physicians.

That your Memorialists would respectfully submit that every individual who, when the Charter is granted, has obtained the degree of Doctor of Medicine from any British University legally empowered to confer the same, should, upon ceasing to practise pharmacy, be allowed to register as a Physician at any period he may think proper, and without any further examination whatever.

That your Memorialists gratefully acknowledge the efforts made by you to bring to a satisfactory conclusion the long-agitated question of Medical Reform; but they respectfully assure you, that no measure can be acceptable to the profession which does not maintain the rights and privileges of all those now engaged in practice. They would therefore respectfully, but urgently, entreat you to withhold your assent to the introduction before Parliament of any Bill which will deprive Graduates in Medicine of British Universities of their right to append to their names on the register any academic title they may possess: and in any new Charter conferred on the London College of Physicians, to provide that all who *now* hold the degree of Doctor of Medicine shall, at any future time, on resigning the practice of pharmacy, be entitled to register as Physician, and on payment of a reasonable admission fee, to enrol themselves as members of the London College of Physicians.

And your Memorialists will ever pray, &c.

Name,
Address,

Moved by Dr. BATES, seconded by Dr. RAYNER, of Stockport, and resolved unanimously—

"That the Memorial be printed, and a copy addressed to every Graduate in Medicine engaged in general practice in Manchester and the neighbouring towns, who is requested to append his signature, and to return it to the Secretary *pro tem.*, and that the Chairman, Dr. HARRISON, be authorised to sign the Memorial on behalf of those who thus signify their approval of the same."—I am, sir,

Your obedient servant,
J. AIKENHEAD, M.D.,
Sec. *pro tem.*

This Memorial has been signed by the following gentlemen:—Drs. Harrison, Bowman, Clay, Bates, Sinclair, Wainwright, White, Lund, Goodwin, Jepson, Crighton, Welsh, Aikenhead, Murray (Oldham), Woollam, Lus (Ashton), Chadwick (Bury), Chadwick (Bolton), Rayner (Stockport), Buckley (Rochdale), Brady (Nantwich), and others, numbering upwards of thirty.

112, Oxford Road, Manchester,
April 18th, 1849.

THE CHELTENHAM MEMORIAL ON MEDICAL LEGISLATION.

To the Right Honourable Sir George Grey, Baronet, G.C.B. M.P. &c., Her Majesty's Principal Secretary of State for the Home Department.

WE, the undersigned Medical Practitioners resident in Cheltenham, have had our attention drawn to certain "Outlines of a Bill for regulating the profession of Physic and Surgery," which it is stated have been submitted to you by a Conference of Delegates from the principal Medical Corporations of London.

We have also seen published in the Medical Journals a memorial relating to this subject, which has been forwarded to you by our professional brethren of Manchester, and which expresses in detail various objections to the proposed measure.

Not wishing to weary you with a communication of unnecessary length, and believing that nothing we can say will better deserve your full consideration than the document referred to, we desire to record our entire concurrence in, and to adopt as our own, the sentiments so well put forth in the Manchester Memorial, and earnestly beg you to accord to the arguments therein stated, that deep attention which their importance, and the temperate tone in which they are propounded, so justly merit.

We would only suggest, in addition, that while the health of the public imperatively requires that all persons permitted to practise in the united profession of medicine and surgery, should be qualified in both branches of the art, the same consideration of public welfare, no less than the respectability of the profession, demands that any legislation on this subject should have a tendency to discourage for the future the connection generally subsisting between the functions of the medical adviser and the trade of pharmacy, so far, at least, as long-established prejudices will allow, and without interference with the rights of existing practitioners.

Holding this view, we need hardly say how entirely we differ from those who would create, in addition to our already too numerous Colleges, a new institution for the purpose, as it appears to us, of perpetuating a combination to which we would gladly do all in our power to put an end.

We submit this suggestion with all deference to your consideration, in the full conviction that we are thereby consulting the true interests both of the profession and the public, and will merely in conclusion repeat most respectfully our earnest hope that you will not commit yourself to the measures proposed by the conference of delegates, but allow to the well-considered objections of the Manchester Memorialists, that weight to which we believe them to be entitled.

J. Baron, M.D. F.R.S.; J. Allondyce, M.D.; W. R. Bernard, M.D.: Æneas Cannon, M.D.; Wm. Conolly, M.D.; W. Philpot Brookes, M.D.; Thomas Wright, M.D.; Geo. Bagnell, M.D.; E. Acworth, M.D.; A. W. Gabb; S. Davies, M.D.; C. F. Elcum; Walter Cary; Fred. Hyett; Courtland S. Shaw; W. T. Sheldon; C. T. Cooke; Chas. Fowler; G. Ford Copeland; Clement J. Hawkins; Augustus Eves; Wm. Bell; Chas. Prentice; Stephen E. Comyn, M.D.; C. B. Ker, M.D.; T. J. Cottle; Robt. Newman; W. Dalton; W. H. Hooper; James Wyatt; James Fortnom; Edwd. Fricker; Chas. Edwards; David Hartley; Geo. Arnott; T. R. Colledge, M.D.; John Orrell; J. S. Wilis; Collings Robinson, M.D.; W. Gibney, M.D.; J. H. Peebles, M.D.

Cheltenham, April 21, 1849.

THE PETITION OF MEDICAL OFFICERS OF UNIONS IN ENGLAND AND WALES.

The humble Petition of the Chairman and Committee of the Medical Officers of Unions in England and Wales, and other Members of the Medical Profession, Sheweth,—

That your Petitioners have been duly authorised, by resolution passed at a meeting of delegates and others representing the medical officers of unions in England and Wales, held at the Hanover Square Rooms on the 19th of February, 1849, to lay before your honourable House a statement of the grievances complained of by the said medical officers, and to solicit the interposition of your honourable House for their redress and removal.

That your Petitioners have already, by memorial to the Right Honourable the Secretary of State for the Home Department, and to the President of the Poor Law Board, respectfully set forth the numerous evils and defects of the present system of administering medical relief to the sick poor, more especially as they affect the position and interest of the medical officer; but your Petitioners lament that hitherto no decisive steps have been taken towards their amendment, either by the Government or the Legislature; they therefore entreat the attention of your honourable House to the manifold injuries which they sustain under the existing laws.

Your Petitioners desire to impress upon your honourable House their conviction that very much of the difficulty and dissatisfaction attending the operation of the poor laws originates in the present mode of affording medical aid; for it will appear, on examination of the facts, that almost every case of complaint that has strongly agitated public opinion has been contingent on the imperfect arrangements in this important branch of poor law administration. Among the defects of this system bearing more directly on the well-being of the destitute poor, the following are the most obvious and important:—

1st. The difficulty of obtaining an order for medical relief from the relieving officer in cases of sudden illness, of accident, or of midwifery.

2nd. The frequent refusal and general uncertainties of remuneration to the medical officer for his attendance on a poor patient under such circumstances, and the consequent hardship either to the patient, the medical officer, or both.

3rd. The undue restriction on the medical officer in reference to his power of ordering the necessary aliment for the cure of his patient, and the frequent neglect of such orders when given.

4th. The want of the requisite inspection over the working of the system by intelligent and duly qualified medical men.

That there can be no doubt that in consequence of the present complicated and inefficient system, much avoidable suffering and distress afflict the labouring classes; and that, by invaliding the father of a family, and throwing him, his wife, and children, upon the funds of the union for support during a protracted disease, and by the increased expenditure arising from premature widowhood and orphanage, the burdens on the ratepayers are greatly augmented; whilst, also, the same causes tend to increase that rapidly-spreading mass of hereditary pauperism which is confessed to be a national calamity, which has brought the Poor-laws themselves into very general disrepute and distrust.

That, whilst your Petitioners deplore those evils, they feel it their duty to state that the medical officers are worked heavily and at great disadvantages; and although, as it has been generally avowed, they perform their trying and onerous duties with zeal and humanity, they have nevertheless universally complained of the grievous pressure of the system under which they act, and of the want of encouragement to exertions hitherto so faithfully rendered which they experience in the disgracefully low and parsimonious remuneration at present awarded.

That your Petitioners have ascertained, after an examination of returns from 805 districts in various parts of the country, that the average payment per case for medical attendance on the poor is only 2s. 7d. for the country districts, and 1s. 6¾d. for the metropolitan districts, the higher of which sums is scarcely sufficient to defray the reasonable cost of drugs at the rate of expenditure that obtains in hospital and dispensary practice, and affords not the slightest recompense for the surgeon's skill, time, and labour, which in an extensive and populous district are so fully engaged that he is greatly impeded in his efforts as a private practitioner, and he sustains in this respect a heavy loss, of which he becomes sensible only when it is too late to redeem it. That it is also proved that, in consequence of the salaries being fixed upon no definite plan, the payment for medical service varies very widely in different districts, being so high in the Bishop Wilton district of the Pocklington union as 14s. 4d. per case, and so low in a district of Newton Abbott union as 3d. per case; that also the remuneration is frequently in an inverse ratio to the amount of work done, and instances are known to your Petitioners, where one medical officer doing ten times more work than another receives only one-fourth of the remuneration per case. Similar inequalities prevail, even in different districts of the same union, in consequence whereof great injury has been done to many hard-worked and meritorious officers, and the liveliest dissatisfaction has been expressed throughout the country. Your Petitioners would also beg the attention of your honourable House to the fact—viz. that the civil surgeon attending a detachment of the army receives 6s. 6d. per head, sick or well,—a sum that would afford remuneration of several pounds for each sick case; also, that 13s. 7d. is paid for a sick felon who is attended in a gaol, whereby the time of a surgeon is not wasted, nor his strength impaired, by making extensive and laborious journeys; and that 7s. per head is paid for the police. And your Petitioners trust that the contrast of these payments with the paltry average of about 2s. awarded for medical attendance on the sick poor of this country, will present a striking illustration of the wrong and hardship to which the Union medical officer is subjected, and will convince your honourable House of the instant necessity of reforming so unjust and degrading a system.

Your Petitioners further desire to state, that the invidious position in which Union surgeons are placed between the rival powers of the honourable the Poor Law Board, and the Boards of Guardians, operates most disadvantageously to their interests, and to the satisfactory performance of their official duties; for, inasmuch as any complaint or misunderstanding that may arise, or any appeal that may be made, involves the liability of coming under the jurisdiction of two conflicting boards, the expectation which the medical officer ought to feel of a just award from a calm and unbiassed consideration of his case is annihilated by the conditions under which the adjudication is made.

That, moreover, in consequence of this antagonism between the central and local boards, the union surgeons are unjustly deprived of the benefit of those instructions issued in their favour by the Poor Law Board, in accordance with the recommendation of a Committee of your honourable House; and your Petitioners beg to adduce the following illustrative facts confirmatory of this statement:—That, in the year 1842, the honourable the Poor Law Commissioners issued a code of regulations to the Boards of Guardians, ordering a scale of payments therein specified to be made to poor law medical officers, as extra payments for various surgical operations, and expressly commanded that such extra payments should not be included in the salary of any district medical officer, or contract made by any Board of Guardians with a district medical officer; yet, despite this express injunction of the honourable Commissioners, your Petitioners are authorised to state that these instructions have been very generally evaded or disobeyed by the board of guardians; that several of them reduced the salaries of their medical officers in order that, after the addition of the extra payments, the salaries might not exceed the original amount; others, by undue restraint, induced the medical officer to compound for all extras by a small fixed addition to the annual salary; whilst others have systematically and rigorously evaded the order, by sending all cases of accident to some hospital to which the board subscribes; and thus the medical officer is deprived of any boon intended by the instructions of the Commissioners, the patient's sufferings are considerably augmented, and even his life often risked, by the removal in carts over bad roads for many miles, during perhaps an inclement period of the year.

Notwithstanding the numerous complaints that have been already made, your Petitioners regret to state that the representations of the medical officers of unions have been overlooked, and that by recent Acts passed by your honourable House, in utter disregard of all their claims, they have experienced additional hardship and injustice.

That the Health of Towns Act, and the Act for the Prevention of Epidemic Diseases and the Removal of Nuisances, passed by your honourable House during the last Session of Parliament, confer certain powers on the boards of guardians and the new general board of health, in relation to sanitary purposes, in virtue of which the medical officers of unions have been called upon to perform the duties of officers of health, without any provision being made for payment for such duties. As these duties form no part of the contracted engagements of the medical officers with the boards of guardians, and are not referred to in the instructions of the Commissioners of Poor Laws under which the union surgeons took office, your Petitioners consider that the orders issued by the boards of guardians in compliance with the instructions of the general board of health, are a direct violation of the rights of union surgeons as private citizens of the state.

That your Petitioners have already protested to the general board of health, and to the Poor Law Board, against this new imposition of unrequited labour, and do hereby most respectfully repeat their protest to your honourable House, and earnestly trust that your honourable House will see fit, not only to amend laws so directly subversive of the rights of the subject, but will also undertake the revision of all other laws which affect the position of medical officers of unions, so that a system more conformable to justice and the true interests of the public may be established. Your Petitioners are convinced that under an improved system equally regardful of the interests of the poor and the medical officer, prompt and efficient attendance might be obtained in all cases for the former, whilst the just interests of the latter might be guaranteed, and that thereby the requirements of a true economy in the apportionment of the public funds might be secured, and the duties of an enlightened humanity worthily fulfilled.

That, as the principles of a new and improved system, your Petitioners are of opinion,—

1st. That the payment for medical relief to the poor should be made from the Consolidated Fund.

2d. That the remuneration should be fixed according to a settled plan or scale, and that the average payment in town and country districts should be at least six shillings per case.

3d. That the appointment of medical officer to a district should be permanent, and subject only to be rescinded by the President of the Poor Law Board, or by the director of a board specially appointed, upon proved charge of neglect of duty, gross malpractice, legal sentence inferring dishonour or crime, or other valid cause.

4th. That a general board should be established for the superintendence of the duties of the medical officers of unions, under a chief medical director, and a sufficient number of competent medical inspectors, to protect both the interests of the public and the profession.

That your Petitioners, seeing the perverse opposition by which the local boards have too often succeeded in rendering the instructions of the central board nugatory and void, are fearful that the Poor Law Board has not sufficient power to remove the existing evils, and they therefore most emphatically press upon your honourable House the urgent necessity of considering their manifold wrongs and grievances; and your Petitioners, remembering that nearly 3,000,000 of Her Majesty's subjects are entrusted to their care and skill in every form of accident and disease, that they are often called upon singly, and at a moment's notice, to succour life under the most appalling and hazardous occurrences, and the high qualifications that are necessary from them for a due performance of their varied duties; and considering also the constant liability to pestilence, with all its fearful consequences, not only to themselves but also to their families, the numberless annoyances and harassing anxieties incidental to their arduous and responsible duties, the continual exposure to the vicissitudes of climate and season, and the daily sacrifice of time, money, and strength, which their avocations necessarily incur,—believe that they have paramount claims on the attention of your honourable House, and they earnestly hope that your honourable House will speedily take into your consideration their present position and claims, and amend a system so defective, unsatisfactory, and fruitful of injustice to all parties concerned in its operation, whereby your honourable House will fulfil the noblest functions of a philanthropic and parental legislature, will enlist the sympathies of the suffering poor, command the respect and confidence of the public, and win the gratitude of a numerous but oppressed body of public officers.

And your Petitioners, in conclusion, further pray your honourable House that you will take into your consideration, as speedily as can be, and adopt measures to amend, not only the system of poor law medical relief, but also to put on a more enlightened and satisfactory footing the laws and regulations relating to the education and control of the medical profession generally throughout England and Wales.

And your Petitioners will ever pray.

THOMAS HODGKIN, M.D. Chairman of the Committee.
ADOLPHUS BURNETT.
WILLIAM LOBB.
&c. &c. &c.

ADDRESS TO SAMUEL GASKELL, ESQ., F.R.C.S.E., ONE OF HER MAJESTY'S COMMISSIONERS IN LUNACY, &c., &c., BY THE MEDICAL OFFICERS OF HOSPITALS FOR THE INSANE.

DEAR SIR,—We, members of the Association of the Medical Officers of Hospitals for the Insane, feeling highly gratified at the selection made by the Lord Chancellor, of you, the Superintendent of the Lancaster County Lunatic Asylum, and a member of this Association, to fill the office of Commissioner in Lunacy, take the earliest opportunity of expressing our feelings and congratulations to you; and the assurance that, in our opinion, no one could have been appointed to that office more qualified to discharge its duties efficiently, or more calculated to give satisfaction to those of the medical profession with whom you will thereby be brought into contact.

We fervently hope that you may long enjoy good health to hold the same, and to assist us (in your now more elevated position) in the accomplishment of those objects, viz. "The improvement of Lunatic Asylums, the treatment of the insane, and the acquirement of a more extensive and more correct knowledge of insanity," for which the Association was founded.

And we remain, Dear Sir,
Sincerely and faithfully yours,

J. S. Alderson, M.R.C.S.; W. C. Begley, M.D.; Robert Boyd, M.D.; John Broadhurst, M.R.C.S.; J. C. Bucknill, M.D.; W. M. Bush, M.D.; John Conolly, M.D.; C. C. Corsellis, M.D.; E. D. De Vitre, M.D.; John Hitchman, M.D.; John Holland, M.R.C.S.; James E. Huxley, M.D.; Geo. T. Jones, M.R.C.S.; J. Kirkman, M.D.; Wm. Ley, M.R.C.S.; Richard Mallam, M.R.C.S.; Sir A. Morison, M.D.; P. R. Nesbitt, M.D.; Richard Oliver, M.D.; H. F. Prosser, M.R.C.S.; Robert Stewart, M.D.; A. J. Sutherland, M.D. F.R.S.; Samuel S. Thompson, M.D.; John Thurnam, M.D.; D. T. Tyerman, M.R.C.S.; F. D. Walsh, M.R.C.S.; R. Loyd Williams, M.D.; J. C. Williams, M.D.; F. T. Wintle, M.D.; James Wilkes, M.R.C.S.; Samuel Hitch; and W. W. Williams.

TESTIMONIAL TO MR. JOHN FOWKE.

THE inhabitants of Wolverhampton have recently presented to Mr. Fowke, for his services as surgeon to their Dispensary, a silver salver of the value of fifty pounds, and the amount of a liberal subscription in money. The piece of plate has on it the following inscription, which shows the high opinion entertained of his services by those who were most capable of appreciating them:—To John Fowke, Esq., Fellow of the Royal College of Surgeons of England, Consulting Surgeon to the South Staffordshire General Hospital, and late Senior Surgeon to the Wolverhampton Dispensary, this salver was presented, together with fifteen hundred pounds, on his retirement from the Wolverhampton Dispensary, not less as a mark of gratitude for his disinterested services to that institution, during a period of fifteen years, than as a proof of the affectionate regard entertained for him, and the unqualified esteem in which he is held, by all those who have enjoyed the happiness of his friendship, or experienced the benefit of his medical skill. 1849.

THE CHOLERA IN PARIS.

THIS disease, which at our last report had somewhat abated, has undergone a sudden increase both in the number of cases and of deaths.

According to official announcements, dated April 30th, there had been in the hospitals 2936 cases and 1628 deaths. The deaths in the city of Paris, exclusive of the hospitals, amounted, at the same date, to 695.

THE CHOLERA IN IRELAND.

CONSIDERABLE alarm was created towards the close of the last week by rumours of the appearance of the disease in Dublin, and several sudden deaths were said to have taken place in various parts of the city. On due inquiry, however, it was ascertained that beyond a few isolated cases, the mortality in question was the result of neglected dysentery, and that as yet Dublin is nearly free from the visitation. The sanitary committee is extremely active, and every preparation has been made that human foresight could suggest to guard against the spread of contagion. The last accounts from the west were more favourable.

GENERAL MEDICAL ANNUITY OR RELIEF FUND SOCIETY.

THE Council of the British Medical Association have voted the sum of £15, from a fund which they had at their disposal for charitable purposes, to the General Medical Annuity or Relief Fund Society, founded by Mr. Daniell, of Newport Pagnell.

ROYAL COLLEGE OF SURGEONS.

Gentlemen admitted members on the 27th ult.—R. E. Rusher—F. J. Earle—C. N. Toote—T. B. Phillips—J. W. Saunders—T. S. Rowe—J. W. Smith—C. Welch—J. H. Lakin.

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 26th of April, 1849:—John Caudler, Walpole, Suffolk—Robert Coane Roberts Jordan, Teignmouth—John William Trotter, Durham—William Palmer Steele, Abergavenny—John Horsley White, Wolverhampton—William Annable Skinner, Headcorn, Kent—Thomas Henry Waterworth, London—William Henry Tinney, Otteny, St. Mary, Devon—John Wood, Bradford, Yorkshire—George Hall Cook, Tetbury, Gloucestershire—John Gaman, Hambledon, Hants—Henry Wellings, Royal Navy; and for an assistant, William Evans, Glamorganshire.

OBITUARY MEMOIR OF THE LATE DR. THOMAS HANCOCK.

We have to record the death of Dr. Thomas Hancock, which took place, from disease of the heart, on the 16th ult.

Dr. Hancock was a native of Lisburn, county of Antrim, Ireland, and having studied medicine in Dublin and Edinburgh, graduated in the University of the latter in 1806, when he removed to London, and settled there as a physician: having became a member of the Royal College of Physicians, he enjoyed considerable practice, and was distinguished as a philosophic writer. He was elected physician to the city of London and Finsbury Dispensaries,—an appointment which he held for nearly twenty years, and until his removal to Liverpool, where he also had considerable practice.

Having been much interested in, and occupied with, the scientific and philosophic departments of the profession, wherein he truly excelled, he found that, without a complete sacrifice of health, (which was already giving way) he could not indulge in his favourite pursuits, and at the same time continue the laborious duties of a practitioner of medicine: he therefore retired to his native town, to enjoy among his friends in the retirement of country life, those studies which, together with his zeal in the exercise of his profession, had laid the foundation of that cardiac disease which carried him off at a comparatively early age.

Dr. Hancock enjoyed the intimacy and friendship of the leading members of his own profession, especially that of his most attached friend, the late Dr. Prichard, besides the *élite* of the learned Societies. He was the author of the following works:—An "Essay on Instinct, and its Physical and Moral Relations," (8vo. Lond. 1824, pp. 551); "Researches into the Laws and Phenomena of Pestilence;" the articles "Endemic Diseases," "Epidemics," and "Influenza," in the Cyclopædia of Practical Medicine; also a pamphlet on the "History of Epidemic Cholera," of which there has been published a digest in a recent number of the Public Health Journal; besides an account of Friends in Ireland during the Rebellion of 1798 (of which Society Dr. H. was a member); together with pamphlets on religious subjects. For several years he laboured under eczema of the legs; during the last three or four of his life suffering much from dysphonia.

A post-mortem examination of his body revealed an extraordinary extent of cardiac disease, the mitral and aortic semilunar valves being completely converted into bone, as was the aorta from the heart throughout its arch, even to the diaphragm, having here and there within it, osseous deposits of a stalactitic form: he was able to move about till within a few weeks of his death, and experienced none of those inconveniences in walking up stairs or ascending a hill which are usually felt by patients with heart disease. · About two years since he was on the continent, and consulted the celebrated Foville, in Paris, who, with M. Rayer, examined him, the latter pronouncing him at once to labour under extensive cardiac disease, and expressing his surprise that he could ascend the stairs to his bed-room. In private life, Dr. Hancock was amiable, kind, and charitable, ever ready to contribute towards the relief of suffering humanity. His works evince throughout them a tone of religious sentiment, well harmonizing with the author's deportment in life.

OBITUARY.

On the 22nd ult., at Kew, Edward Scard, Esq., aged 41, household surgeon to his Royal Highness the Duke of Cambridge, magistrate for the counties of Middlesex and Surrey.

Selections from Journals.

ON COMMON SALT AS A POISON TO PLANTS.

BY W. R. RANDALL.

The following notice is presented as being likely to afford a useful practical caution to those interested in the cultivation of plants. In the month of September last, three or four small plants in pots were shown to Mr. Randall, nearly or quite dead; and he was, at the same time, informed that their destruction was a complete mystery to the party to whom they belonged, and that Dr. Lindley had expressed his opinion, from the examination of a portion of one sent to him, that they were poisoned. Having searched in vain for any strong poison in the soil, and in the plants themselves, he inquired more minutely into the circumstances of the case, and found that these were only specimens of many hundreds of plants both in the open air and in green-houses, (but all in pots) which exhibited in a greater or less degree the same characteristics. The roots were completely rotten, so as to be easily crumbled between the fingers; the stems, even in young plants, assumed the appearance of old wood; the leaves became brown, first at the point, then round the edge, and afterwards all over; while the whole plant drooped and died. At least 2,000 cuttings in various stages of progress, and 1,000 strong, healthy plants, had been reduced to this condition; including different varieties of the fir, cedar, geranium, fuchsia, rose, jasmine, and heath. The sight of this wholesale destruction, coupled with the fact that the whole were daily watered from one particular source, suggested the conclusion that the cause of the evil must reside in the water thus used; and this was accordingly examined. It yielded the following constituents, making in each imperial pint of 20 fluid ounces nearly 9½ grains of solid matter entirely saline, without any organic admixture:—

Carbonate of lime . . .	0·600
Sulphate of lime . . .	0·462
Chloride of calcium . .	0·200
Chloride of magnesium .	1·252
Chloride of sodium . .	6·906
	9·420

The mould around the plants, and an infusion of the dead stems and leaves, also afforded abundant evidence of the presence of much chloride of sodium. Farther inquiry showed that the well from which the water was produced had an accidental communication, by means of a drain, with the sea, and had thus become mixed with the salt water from that source, and had been used in this state for some weeks, probably from two to three months. From about that time the plants had been observed to droop; but it was not until nearly the whole of a valuable stock had been destroyed, that any extraordinary cause of the evil was suspected. To place it beyond doubt that the water was really the cause of the mischief, twelve healthy fuchsias were procured from a distance, and divided into two parts; half being watered morning and evening with the water in question, and the others with rain water. In a week, the six plants watered from the well had turned brown, and ultimately died, while all the rest remained perfectly flourishing. Assuming, from these facts, that the common salt in this water was the chief cause of the results described, it is proved that water containing about seven grains of salt in each pint is, in its continued use, an effectual poison to the weaker forms of vegetation; or that when a soil is continually watered with a weak solution of salt, it gradually accumulates in it until the soil becomes sufficiently contaminated to be unfit for the support of vegetable life. In either case, an interesting subject of inquiry is suggested—What is the weakest solution of salt which can produce in any measure this poisonous effect?—or, in other words, at what degree of dilution does the danger cease? For salt is an important natural constituent of much spring water, quite independent of any infiltration from the sea, as in this instance. Thus:—the water of the Artesian well, Trafalgar Square, London, contains in each gallon about 20 grains; that at Combe and Delafield's Brewery 12·7; that at Wolverhampton Railway Station 6; and one lately sunk at Southampton, for supplying a private manufactory, 40. — *British Association, Athenæum report.*

TOXICOLOGY.

A NEW METHOD OF DETECTING ARSENIC IN THE VISCERA, AND IN ORGANIC SUBSTANCES.

M. J. L. **Lassaigne** boils the substances suspected to contain arsenic in a mixture of sulphuric and nitric acids, slightly diluted with water: the resulting liquid contains all the arsenic present, and has not the usual viscosity of the fluid matters to be tested. Solid matters may be treated in the following manner:—Having been divided into small pieces, they are boiled in concentrated sulphuric acid, until incipient carbonization takes place; then, when cool, concentrated nitric acid in excess is added to the carbonized mass, and the mixture is boiled until the nitric acid is entirely decomposed. The residue is diluted with from five to six times its volume of distilled water: it is then filtered, and Marsh's test applied.

A weight of sulphuric and nitric acids, equal to the weight of the substances requiring analysis, is considered by M. Lassaigne to be the suitable proportion. This method M. Lassaigne has found to be completely successful in separating arsenic from even the smallest quantities of organic matter.—*Journal de Chimie Médicale*, Dec. 1848.

⁂ The process here described is objectionable, because it is incompatible with the employment of Reinsch's excellent test.

BOOKS & PERIODICALS RECEIVED

DURING THE LAST TWO WEEKS.

The Contagion of Asiatic Cholera, &c. By E. O. Spooner, M.R.C.S. &c.

Royal Edinburgh Asylum Annual Report, 1848.

Casper's Wochenschrift der ges. Heilkunde. Nos. 12 and 13, 24 and 31 März.

Annales d'Hygiène et de Médecine Légale. Avril 1849.

Comptes Rendus. Nos. 13, 14, 15. 1849.

A Treatise on the Pathology, Diagnosis, and Treatment of Neuroma: with Illustrations. By R. W. Smith, M.D. T.C.D.

Lectures on Medical Missions, delivered at the instance of the Edinburgh Medical Missionary Society.

The Marriages, Births, and Deaths, registered in the Divisions, Counties, and Districts of England.

Journal of Public Health. May 1849.

First Report of Somerset County Lunatic Asylum. 1848.

Handbuch der allgemeinen und 'speciellen Gewebelehre. Von Dr. Jos. Gerlach. 2te Lieferung.

Introductory Lecture to a Course of Surgery to the Medical Class of Geneva College. By Professor Bryan.

Somnolism and Psycheism. By J. W. Haddock.

Pharmaceutical Journal. May 1849.

Monthly Journal of the Medical Sciences. (Edinburgh), May 1849.

London Journal of Medicine. May 1849.

The Dublin Quarterly Journal of Medical Science. May 1849.

British Record of Obstetric Medicine, No. 9, May 1, 1849.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer	29·51		
„ „ „ Thermometer[a]	45·9		
Self-registering do.[b]	Max. 77·9	Min. 29·	

[a] From 12 observations daily. [b] Sun.

Rain, in inches, ·46.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 3°9 *below* the mean of the month.

The total quantity of rain which fell in the metropolitan district during the month of April, amounted to 2·22 inches.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, April 28.

Births.		Deaths.		*Av. of* 5 *Wks.*	
Males....	776	Males....	533	Males....	592
Females..	752	Females..	525	Females..	577
	1528		1058		1169

Causes of Death.		*Av. of* 5 *Spr.*
All Causes	1058	963
Specified Causes	1041	959
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*..	233	198
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	43	48
3. Brain, Spinal Marrow, Nerves, and Senses	127	123
4. Heart and Bloodvessels	42	39
5. Lungs, and other Organs of Respiration	194	131
6. Stomach, Liver, and other Organs of Digestion	65	62
7. Diseases of the Kidneys, &c...	6	11
8. Childbirth, Diseases of the Uterus, &c.	9	8
9. Rheumatism, Diseases of the Bones, Joints, &c.	4	8
10. Skin	1	1
11. Old Age..............	44	50
12. Sudden deaths	14	11
13. Violence, Privation, Cold, &c.	23	33

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	15	Convulsions	41
Measles	27	Bronchitis	91
Scarlatina	47	Pneumonia	65
Hooping-cough ..	51	Phthisis	136
Diarrhœa	16	Dis. of Lungs, &c..	11
Cholera	1	Teething	15
Typhus	34		
Dropsy	9	Dis. of Stomach, &c.	4
Hydrocephalus....	30	„ Liver, &c...	7
Apoplexy..........	30	Childbirth	7
Paralysis	20	Uterus............	2

Remarks.—The total number of deaths was 95 above the weekly average. As during the previous week, there was only *one* death from cholera.

NOTICES TO CORRESPONDENTS.

Notice.—In order to prevent delay in the insertion, it is particularly requested that all letters enclosing advertisements be marked on the outside "*Advertisement.*"

Dr. Binny's case of Triplets will be inserted.

The Report of the Liverpool Pathological Society next week.

THE GENERAL INDEX.

We have to announce to our Subscribers that a General Index to the *first* 40 *Volumes* of the London Medical Gazette will, it is calculated, form a large Volume of about 700 pages. The cost of the Index Volume, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. Wilson and Ogilvy, 57, Skinner Street, will receive the Names of Subscribers.

London Medical Gazette.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 and 1847,

By Bransby B. Cooper, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture LV.

DISEASES OF THE BREAST—(Continued.)

Treatment of scirrhus must be directed to the improvement of the constitution and palliation of suffering—Futility of sending patients abroad in hope of cure. Extirpation of scirrhus—circumstances under which the operation ought or ought not to be performed. Fungoid disease of the breast—symptoms—progress — its rapid development — case. Tendency to hæmorrhage in fungoid disease—sloughing—case — Death from bleeding. Identity of scirrhus and fungoid disease; sometimes met with in the same individual—propagation to distant parts—treatment of soft cancer—remedies similar to those employed in scirrhus —soft cancer requires earlier extirpation —use of the microscope in detecting the medullary effusion—question as to when the operation is best performed—case. Operation of extirpation: after treatment, and observances most likely to prevent recurrence of the disease. Cancer in the male — rarity — probably depends on structure—characteristics of the disease —identity with cancer in the female— Cases.

Treatment of scirrhus.—It will be clearly seen, from what has been already said on the subject, that the use of remedies in this disease can only be available if they are capable of changing the peculiar constitutional tendency of the individual; a result which has hitherto, however, proved to be beyond the power of therapeutical science. At the same time it must not be considered that the employment of remedies is altogether useless, for by judicious local and constitutional treatment great benefit may be derived: the progress of the disease may probably be staid, and at all events the suffering of the patient may be mitigated.

In the scirrhous tubercle the principal advantage that can be derived from medical treatment is through the constitution; as the local symptoms being but seldom very urgent, the attention is naturally drawn more particularly to the constitutional deterioration, and the improvement of the health is in such cases the chief object of the practitioner. Should scirrhous tubercle have become developed previously to the cessation of menstruation, uterine disturbance will be almost invariably present as the prominent symptom, and as the breast sympathises so closely with the uterus, the indication is to soothe the irritation of that important organ. Even when the scirrhus occurs after menstruation has ceased, it is not uncommon to find the patient complaining of uneasiness in the region of the uterus: if such a symptom manifests itself, an examination should be made to ascertain whether scirrhus has attacked the uterus: if this should be the case, the application of a few leeches, and the use of the Ung. Potass. Iodid., may be found beneficial: the most certain proof of this will be the mitigation of the pain in the mammary tumor. If leucorrhœa be present, either with or without disorganization of the uterus, it must be immediately suppressed by astringent injections, for during its continuance there can be no hope of improving the general health of the patient. Dyspepsia is also a symptom frequently accompanying scirrhous disease, and we can easily understand how slight can be the chance of effecting improvement in the vital energies, when the assimilative powers are themselves defective. Gentian or quassia, with the mineral acids, will be found useful in such cases; or should there already be a tendency to acidity, the iodide of potassium, with liquor potassi, will be found an excellent remedy: it may be given either with or without narcotics, according to the suffering experienced by the patient. In the treatment of the mammary tubercle itself, the great point is to keep the arm in a state of perfect rest, and by the application of one or two leeches, where the pain is most severe, to subdue at once the effects of any accidental source of irritation. Change of air and scene will be found highly conducive to the improvement of the health, particularly change of scene, if there be any cause of mental distress connected with the ordinary domestic duties of the patient; for I have already mentioned how much mental anxiety aggravates the disease, even if it be not sufficient to produce its development in the first instance. The practice of sending patients abroad in this as in other diseases of a hopeless character, I consider equally cruel and useless: cruel, because the sufferer is more or less separated from the strongest ties of affection, and removed from every domestic comfort; and useless, as change of air can only be looked upon as a means of diminishing the suffering of the patient, and can never be expected to operate as a means of effecting ultimate cure. Sir Astley Cooper mentions the case of a lady, a patient of Sir David Dundas, who was recommended to make a

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voyage to Trinidad, under the hope of re-establishing her health: the disease went, however, through all its usual stages, the fatal termination appearing to be in no wise checked by the influence of the voyage.

In another case a lady went from England to India, under a similar hope of improving her health: the disease, however, went on, and she only lived long enough to return to her native land. Pregnancy seems to exercise a powerful influence over this disease; and even during lactation, if the mother suckle the child, the tubercle seems to remain quiescent: but after these natural actions have ceased, the virulence of the disorder seems to be increased, and the patient very shortly falls a victim to its renewed attack.

It is a remarkable fact that no case is recorded of scirrhous disease commencing during pregnancy. This serves, I think, to show how effective an improved condition of the constitution must be in checking the advances of this disease, and therefore we may reasonably hope that at some future period a method of treatment may be discovered that will be capable of establishing in the constitution artificially a state similar to that which nature induces during uterine gestation: at present no medicines are known which can effect this; but there can be no doubt that iodine, arsenic, small doses of mercury, and indeed all the alterative remedies, afford relief, although it is only of a temporary character. In my opinion, however, most advantage will be derived from strict attention to the natural secretions, rules of diet, and to maintaining the mind of the patient in a serene and equable state.

When ulceration has commenced, the danger of the disease is much increased, from the liability now established to its propagation to other parts of the system. We know of no remedies competent to the suppression of this liability, and although it is generally considered an unfit time for the extirpation of the breast, still I believe that if the axillary glands be not enlarged, there is no reason why the operation may not be performed at this time with as much propriety as before ulceration had taken place—that is to say, if the operation can be looked upon as affording any just hope of success in the treatment of cancer. After all, I fear it can only be regarded as removing the external development of the disease, and not as eradicating the cause, which is in fact to be found in the defective constitution of the patient.

If the operation should not be considered advisable, or the patient should refuse to submit to it, considerable benefit may be derived from the application of chloride of zinc to the ulcerated surface, when that is not too extensive. I have often been surprised at the rapid manner in which ulceration has been checked by this treatment: a healthy condition being temporarily induced, and the pain much diminished. I tried this system of treatment about a year since upon a patient in Dorcas Ward, and at one time I thought she was becoming perfectly cured: the pain had all ceased, the scirrhous hardness was removed, and an apparently healthy granulating surface seemed about to close the wound: just, however, at this time, all the specific characters of the disease returned, the glands in the axilla became enlarged, and she died under the usual circumstances of this disease. It would therefore appear that in treating cancer the most that can be done is to mitigate the symptoms by sedative poultices, instead of fruitlessly attempting the eradication of the disease.

Fungoid disease of the breast.—This disease has been differently named by authors. By Hunter it was termed fungous disease; by Sir Astley Cooper, soft cancer; and Mr. Hey, of Leeds, has proposed for it the name fungus hæmatodes: by some it has also been termed medullary sarcoma, which term is perhaps appropriate, when the disease has reached the ulcerated stage. The varieties of name have arisen from the particular conditions the disease may have assumed during its development, for it will be found that the same disease generally termed cancer is capable of being produced under the form of the hardest tumor, or that of a soft medullary exudation, the difference between the two probably arising from the peculiarities of the constitution.

The name which is in my opinion the most correct in the usual form of the disease, is that proposed by Sir Astley Cooper, viz.—"fungoid, or soft tubercle of the breast."

In this variety of cancerous disease, as well as in the hard scirrhus, the patient is of course the subject of malignant diathesis, and any exciting cause irritating the breast gives rise to increased action, which in a healthy person under proper treatment would terminate by resolution; but under the peculiar constitutional deterioration, a new element is eliminated from the blood instead of healthy effusion, and this constitutes a tubercle which in young and sanguineous females is much softer than the deposition in the disease already described as "hard scirrhus." This is in fact the adhesive stage of the disease, and is modified according to the peculiar circumstances under which it has been propagated. At first the tumor will be found very moveable upon the mamma, and perfectly free from adhesion to the skin, softer to the feel than the chronic scirrhous tumor, and possessing very much the physical properties of an enlarged gland in a scrofulous patient: indeed, the resemblance is so strong, that the diagnosis is very difficult, and one can only be distinguished from the other by ascertaining that the patient is generally free from any strumous taint: the tumor in fungous disease has also but slight disposition to suppurate, being rather inclined to go on increasing greatly in size: it is at first attended with little or no pain, and manipulation does not give rise to any uneasy sensation; its consistency is tolerably uniform, from the centre to the circumference, although it yields somewhat to pressure: but this is rather from its elasticity than from fluctuation. The fungous tumor is much less circumscribed than the hard scirrhus, or even than the scrofulous enlarged gland: so indefinite, indeed, are its limits, that it presents altogether a different sensation to the hand, giving the idea of diffusion,—somewhat, indeed, like that experienced on handling an œdematous swelling. The disease often increases not merely by the growth of the original tubercle, but from the formation of fresh ones at other parts of the breast: this gives an additional irregularity to the surface; but I have seen in this disease, as in scirrhous inflammation, an almost simultaneous fungoid growth through the whole mass of the breast. I remember seeing a case in Alfred Place, Bedford Square, with Sir Astley Cooper: it was that of a young lady, 13 years of age; she had menstruated once, and immediately after her left breast increased rapidly in size: this much alarmed her aunt, who was also her guardian, and with whom she resided. Sir Astley Cooper was consulted, and I accompanied him to visit the patient. With the exception of its size, the breast presented nothing remarkable in its appearance beyond what might have been expected from the period of life at which the patient had arrived. Still it was evident that some abnormal action existed, as the other breast had not reached even its natural development under the uterine action. When manipulated, the whole seemed softer than natural, and in some points yielding so as to give somewhat the sensation of fluctuation: there was no pain, even when the breast was pressed with the fingers; but the patient's general appearance indicated a highly cachectic diathesis. Sir Astley Cooper pronounced it to be soft cancer, and as the glands in the axilla were unaffected, he recommended its immediate removal. After a delay of eight or ten days, the friends of the young patient decided on permitting the operation: in the meanwhile the breast had, however, increased to nearly double its former size, so that the operation was rendered much more formidable from the difficulty of checking the hæmorrhage. For a few days after the operation the patient seemed to rally from the shock, but within a fortnight the wound reassumed its malignant character; large fungoid masses sprouted from its surface, and six weeks after the operation the patient died. Upon examination of the body, fungoid tubercles were found in the liver, lungs, and mesenteric glands. A section of the tumor showed large masses of medullary matter enclosed in cysts, with interstices between them, and through which large blood-vessels took their course: the tumor presented, in fact, very much the appearance of a mass of brain surrounded by a covering of injected pia mater.

It is right, however, to observe here, that at the age of puberty it is not uncommon that one breast should become much more rapidly developed than the other; and this rapid growth may lead to so much congestion of the superficial veins as to impart to to the breast that appearance of malignant disease: this fear is soon, however, removed from the mind, by the breast on the other side attaining an equal size: there would, also, in such a case be a total absence of constitutional deterioration.

If a malignant tumor be allowed to proceed in its course without extirpation, it will shortly pass into a condition closely resembling the suppurative process, and the tubercles then become so soft in the centre as to communicate a sensation to the touch similar to that in abscess: it is, however, unattended by any constitutional symptoms indicative of the formation of pus. If an opening be made in these tumors, sometimes blood only will be discharged; at other times the effused matter will consist of serum, coloured by red particles, or of a thick grumous fluid: and this variation shows that the fluid effusions are as much modified by the peculiar state of the constitution as the solid parts of the morbid growth. After being punctured, the incised edges sometimes grow together again immediately, and fresh accumulations of fluid take place; but it more frequently happens that unhealthy fungoid granulations sprout out of the opening, and the wound never after heals. This is so often the result of puncture, that I consider it a bad plan to explore a fungoid tumor, for the disease goes on increasing much more rapidly after the granulating process is established. If a fungoid tumor be not surgically interfered with, it quickly passes spontaneously into the ulcerative stage; attended, however, by certain pathognomonic symptoms indicative of the change. The skin alters in colour, becoming of a dingy bluish tint; it also becomes tense, and the patient now, for the first time, experiences pain in the part, and begins to attach importance to the disease: in the course of a few days the ulceration commences, and a fluid secretion is evacuated, sometimes possessing a very fœtid odour. In a short time the discharge ceases, and the fungoid growth rapidly protrudes through the ulcerated opening, presenting an irregular cauliflower surface of unhealthy granulations. The granulated surface has a great tendency to bleed, breaks down under the slightest touch, and often requires the application of weak styptics to check the hæmorrhage. When the granulations have become very exuberant, and the malignant excrescence has acquired a very large size. It loses its vitality, and begins to slough: this action sometimes goes on to so great an extent as to lead to the short-lived hope that the whole disease would be thus thrown off; but the malignant action, I believe, invariably returns. I remember a case of this kind which occurred many years ago under Sir Astley Cooper and myself: the subject was Dr. Tate, a physician in the navy, who was living at Pimlico; he had an ulcerating fungous disease of the cervical glands: the tumor was most prominent just above the clavicle. After the tumor in this case had acquired a very great size, gangrene supervened, and the whole morbid mass sloughed away, leaving the granulating surface of a healthy appearance: indeed, at one period Sir Astley Cooper entertained hope that the disease was only local, and that there was a possibility of the patient's recovering. Suddenly, however, the diseased action recommenced, fresh excrescences were formed, a kind of phagedenic ulceration followed, and in a very short time after the subclavian artery gave way, and the patient bled to death. This case shows that hæmorrhage may be the sequel to this disease, and it also teaches us that absorbent as well as secreting glands may be primarily affected with fungus or soft cancer. Bleeding is, indeed, frequently the cause of death in fungous disease, if not by the bursting of a large artery, by repeated bleeding from small ones: indeed, even the sanious effusions from an extensive granulating surface may be sufficient to ultimately destroy the life of the patient.

During the progress of this disease through the adhesive, suppurative, ulcerative, and even to the gangrenous stage, the constitution sometimes remains almost unaffected, and the patient is free from pain or any other symptom beyond that of debility; proving in how slight a degree constitutional symptoms are commensurate with the importance of disease: indeed, unless some important organ be affected, no dangerous symptom may occur, with the exception of the debility and anæmia occasioned by the profuseness of the different effusions.

When dissected, these soft cancerous tubercles seem to present very different appearances to the cursory observer; but upon minute dissection they are all found to be composed of a cystiform mass: the cysts themselves contain, however, different products, according to the peculiarities of the constitution and the age of the patient, and somewhat, I believe, depending upon the nature of the tissue originally or subsequently involved. The variety in these effusions can scarcely be a matter of surprise, when, even in common inflammation, we find the products, under certain circumstances, varying as much as in malignant disease; not having, however, the same tendency to indefinite increase, although, perhaps, being unfitted to become organised and converted into healthy structure. Thus, in persons of a strumous diathesis, we find non-plastic caseous matter deposited under the adhesive, and ill-formed pus globules under the suppurative inflammation; but this tendency may be improved by judicious remedies; while, on the contrary, in the malignant cachexia, we can do but little for the relief of a patient, and nothing for the cure. At the same time, it would be very difficult to form a diagnosis between a bad strumous and a malignant deterioration: not that I mean to argue that these conditions are identical, but to point out that the line of demarcation is very indistinct, and that they seem to approach each other by imperceptible graduations. The effused matter contained in the cysts or cells will be found of a consistence and nature somewhat resembling the structure whence the disease originates: for example, when it arises from the fibrous tissues (a common seat of this disease) the effused matter will be found to present a kind of fibrous arrangement, its cells being prolonged somewhat in the same manner as in ordinary hypertrophy; but the new growth never acquires the properties of fibrous tissue, nor is it able to sustain its own vitality. Fibrin, serum, and grumous effusions, may all form the contents of these cysts: sometimes in the same patient, in different parts of the same tumor, according as the patient's health has varied during the progress of the disease; and I am convinced that I have seen in the same individual both the fungous and the hard scirrhous tubercle. The presence of scirrhus and soft cancer in one individual, proves to me that the diathesis is the same in both these diseases: indeed, it not unfrequently happens that after the extirpation of a hard, well-defined scirrhous tubercle, the wound will not heal, but a cauliflower, fungous excrescence, will be thrown out, and the patient ultimately die with all the indications of soft cancer. It generally happens that the patient, when the subject of soft cancer, dies in consequence of the propagation of the disease to a vital organ, and not from its primary development, and all the structures of the animal frame are liable to become thus secondarily affected. The lungs are particularly disposed to this contamination, especially if there be any tendency to phthisis, and fungoid tubercles are frequently found both superficially and deeply seated in their substance. This produces defect in respiration, readily detected by auscultation: the liver is also liable to undergo malignant deterioration, and from the yellowness of the complexion in the subjects of this disease, one would be inclined to think that the functions of the liver become early disordered, even before the disease has manifested in the organ. The spleen, kidneys, ovaria, and uterus, have all been found injected. Sir Astley Cooper mentions a case in which there was fungoid tubercle in the substance of the right ventricle of the heart; and in the Museum at Guy's Hospital there is a preparation of the aorta in which that vessel is nearly obliterated by a malignant tubercle. The eye is not unfrequently extirpated for this disease, and fungoid matter has also been found in the thoracic duct. This would seem to prove that the elements of the affection are capable of being taken up by the absorbents; for we can scarcely suppose that the cells could themselves generate the disease in this situation. Fungoid disease is sometimes congenital, and there are in Guy's Hospital Museum, both preparations and models, shewing the full development of this disease in infancy; presenting, perhaps, one of the strongest possible evidences of the truth of the doctrines of humoral pathology.

Treatment of soft cancer.—Medicine does not appear to possess any power over this disease, when once it is established, - even extirpation is unavailing. I am, however, of opinion, that as the operation removes a great source of constitutional irritation, it ought not to be entirely repudiated, and the patients abandoned to their fate. Alteratives are the class of medicines employed in this disorder, and are indeed the same as those mentioned in scirrhus. In those cases of fungoid tubercles which appear to arise more from deterioration of the part than from general cachexia, I should be disposed to apply at once the chloride of zinc, to destroy, if possible, the local action: such an application should, however, only be made in the earliest stages of the disease; and at the same time it would be desirable that tonic alterative remedies should be administered for the improvement of the general health. The soft cancer requires earlier extirpation than any other form of malignant disease, for the medullary effusion is the most rapidly absorbed; and Mr. Quekett, who is one of the best microscopists of the day, has detected this peculiar matter not only in the absorbents, but also in the blood. A question becomes thus involved as to whether the malignant corpuscle is originally formed in the blood, or whether it is taken up after it has been developed in the solid tissues: the latter seems to be the case, as these corpuscles have only, I believe, been found in venous blood.

It is a subject of serious import to ascertain what period is best for the performance of the operation. There can, in my opinion, be no doubt that when once the disease is supposed to be malignant, its extirpation cannot be too soon effected, as the enlargement of the axillary glands, the adhesion of the malignant tumor to the skin or subjacent tissues, or the commencement of ulceration, all tend to diminish the probability of recovery. It does not, however, (as I have before said), follow as a certain rule, that when the axillary glands are enlarged, it must be from propagation of the disease, as the increase of size may have proceeded from irritation alone: the surgeon may generally judge by the physical condition of these swellings, whether they proceed from malignant contamination or from common inflammation: if we consider the latter to be the case, the operation may be performed, or even if one isolated gland be diseased, that may be removed at the same time as the breast. I have had several cases in which the tumor adhered both to the skin and pectoral muscle beneath. In these I extirpated the disease, not with the hope of effecting permanent cure, but from a desire to alleviate the acute sufferings of the patient. In all these cases the disease rapidly returned, but I attained the object I chiefly had in view—the diminution of the continued excessive suffering. I have in some cases even been induced to remove the breast, when in a state of ulceration, where the pain was very severe, and the discharge so profuse as to drain the constitutional powers, and also aggravate the suffering by its excoriating influence on the skin. I remember a patient being in Dorcas ward, with an ulcerated scirrhous breast, of immense size: the discharge was so great that the dressings and bed linen were constantly wet, and there was also great excoriation of the skin. In this case I proposed the extirpation of the disease, not with any hope of effecting a cure, but with the intention of improving the condition of the patient by diminishing the pain and inconvenience arising from the extent of the effusion. The operation was performed, and the result far exceeded my expectations: the poor woman slept well from the first night; her general health improved; the wound for some weeks appeared to be under a healthy action, and, indeed, she seemed infinitely relieved in every respect by the operation. Suddenly, however, fungoid growths were thrown out from the granulating surface: her health again gave way, but there was neither pain nor discharge as before. She shortly, however, sank from complete constitutional exhaustion. Upon post-mortem examination it was found that almost every organ was more or less contaminated by the fungoid disease.

Operation for the extirpation of the mamma.—The sitting position is the best in which the patient can be placed for this opetion; but where chloroform is used, as is now much the practice, the operation must be performed with the patient in the recumbent posture. There is no objection to the lying position, if the tumor be large, but if it be a small one it is much more easily reached when the patient is sitting. Whichever position be chosen, the arm must be abducted and held back by an assistant; as this position of the limb not only tends to put the skin on the stretch, but to facilitate its dissection from the pectoral muscle. The diseased portion of the breast must be removed by two curved incisions, the extremities of which meet, the diseased part being included between them. The lower incision should be first made, as the blood will not then interfere with the further steps of the operation. This incision should commence sufficiently on the outer side, and be continued far enough towards the mesian line, to include the whole of the disease. At the same time it must be carried to a depth that will admit of the exposure of the fibres of the pectoralis muscle, from which the lower part of the tumor must be raised. The upper incision is made to commence at one extremity of the lower cut, and being carried above the tumor in a curved direction, joins it again at the other end: the extent of space comprised between the two incisions will, of course, depend upon the size of the tumor, but must in every case be sufficient to insure the removal of the whole of the contaminated structures. The bloodvessels unavoidably divided in these incisions ought not to be tied at the moment, but the hæmorrhage may be restrained by the pressure from the finger of an assistant until the removal of the breast or tumor be completed, after which they should be permanently secured by ligature.

Before the wound is dressed, the surgeon should make a most rigorous search to ascertain if any portion of the diseased structure be left,—even to an abnormal change in the condition of the cellular membrane; for if any of the morbid matter remain, it would induce a very great liability to the rapid return of the disease. When the surgeon is satisfied that the whole of the contaminated parts are removed, the edges of the wound should be brought together, and a piece of lint dipped in cold water laid upon the surface, and allowed to remain there during three or four hours; until, indeed, the danger of secondary hæmorrhage is past. The wound should not be dressed before this, as nothing is more distressing to the patient, or interferes more with the reparative process, than the removal of the dressings in consequence of secondary bleeding. In the performance of the operation, when the whole mamma is not involved in the disease, and when the nipple is not retracted, it is a matter for consideration whether the whole breast ought to be removed, or the tumor only dissected out with that portion of the gland affected. In my opinion, when the disease is of a truly malignant character, the whole of the breast ought to be taken off; but if the effusion be not malignant, the extirpation of the tumor itself will be sufficient. Should an isolated gland in the axilla have become enlarged, and any doubt exist as to its malignant character, I think that it should be removed without hesitation, although many surgeons consider that the secondary development of the malignant growth is in itself sufficient to preclude the propriety of resorting to the operation. For several months after the operation, the patient should keep the arm on the diseased side much at rest, so as to avoid stretching the cicatrix, as irritation from any source would produce a disposition to the return of the disease. Constitutional remedies, change of air, and freedom from mental emotion, are the most likely means to preserve the patient from its recurrence.

Diseases of the breast in the male.

Cancer in the mamma of the male is very rare, and this is equally true of all the other diseases of the breast, which in the female are unfortunately of common occurrence. This fact depends, no doubt, upon the difference of the anatomical structure of the mammary organ in the male and female; no glandular structure, properly speaking, existing in the male, the nipple and areola, with some hair and fat follicles, being alone developed. Sir Astley Cooper has, however, stated that the lactiferous tubes exist in a rudimentary state, and may be injected. Although the male and female breast thus differ in their anatomical character, cases are recorded in which the male has become the subject of most of those breast diseases which do not depend upon the interruption of any peculiar sexual function; and cysts containing fluid, encysted tumors, and in one case a deposit of calcareous matter, have been found developed in the breast of the male. An hypertrophied condition of the male organ is also sometimes met with: in these cases the breast assumes an appearance similar to that of the female in its usual state; and it is said that milk may be secreted under such circumstances.

I have myself sometimes witnessed in the male, during the period of puberty, changes occurring in the mammæ which resemble very closely those which take place in the female at the same period of life. On one occasion, upon casually entering a shop, I heard a youth requesting a shopman to furnish him with a pair of braces constructed so as not to press upon the nipple. The earnestness and delicacy of his manner excited my professional curiosity; and, in the hope of being able to assist him in obtaining that which he required, I asked him to allow me to examine the source of his uneasiness. I found the right mamma much enlarged, the nipple red and prominent, and the whole region bearing a strong resemblance to the irritable breast of a young female: a fluid like a mixture of milk and pus could be pressed from the nipple. Poultices, fomentations, tonics, and the scrupulous removal of every external source of irritation, soon relieved all the symptoms; but the patient has remained subject to their recurrence if the part became in any way irritated. It is worthy of remark that his brother is also liable to the same abnormal condition under similar circumstances.

Carcinomatous growths are much less frequent in the breast of the male than in that of the female: it sometimes, however, attacks the male mammary organ, both under the form of scirrhus and soft cancer: the scirrhus is more frequent than the medullary form, and the disease is much less rapid in its progress in the male than in the female breast —usually existing, indeed, for many years before the symptoms become urgent: at the same time it should be remarked that there is not an equal tendency to reappear after extirpation. When these tumors have been examined after their removal, they have been found similar in every respect to the scirrhous tumor in the female; and from all the circumstances attendant upon the development of the disease, as well as from its physical organic structure, its identity in the male and female appears to be completely proved. Although it is said, indeed, that the male breast is without the glandular structure found in that of the female, I believe the statement to be incorrect. It is true the glands seldom become developed; but there can be, I think, no doubt that the rudiments always exist; and, where a hypertrophied state of the male mamma is found, it depends only upon the development of those tissues which in a latent state (if I may employ such an expression) are always present.

In proof of this view, there are many cases recorded in which the mamma in the male has become developed, and even secreted a fluid, in consequence of the stimulus produced by the sucking of an infant which had been placed at the breast of the father merely for the purpose of quieting it during the absence of the mother; and a well-authenticated case of this kind is related by Sir Astley Cooper, in his work on the Breast, described to him by his nephew, Dr. Young, of Barbadoes: the atrophied breast of old women is also said to have been excited into a secondary action by the stimulus imparted by a child's sucking. Now, as secretion implies the existence of glandular structure, however simple that structure may be, I think that the fact of a fluid similar to milk having been produced under stimulus in the male, and the identity of scirrhous disease of the breast in the male and female, furnish sufficient proof that a rudimentary glandular structure exists in the male. There are two preparations of male mammæ, removed by myself, in the museum of Guy's Hospital, showing the physical identity of these abnormal conditions.

The following cases will show the character and progress of the disease, and the points in which it appears to differ chiefly from cancer in the female:—

A man, aged 30, was admitted into Guy's Hospital with a tumor in the right mammary region. He was unmarried, and of delicate and somewhat womanly appearance and manner. Five years before coming into the hospital he had received a blow upon the right nipple: a few months after, he discovered a small tumor, about the size of a marble, on the spot: the tumor was soft, not painful on pressure, and on two or three occasions he forced out of the nipple a small quantity of a white fluid somewhat thicker than milk. The tumor gradually became larger, but continued soft until about two years prior to his coming into the hospital, when he suddenly perceived that it had become hard and firm to the touch. Since this time he had frequently received blows on the part, and the tumor had gone on gradually increasing in size, with frequent "shooting and darting pains." Five months before his admission, two nipple-like prominences formed, and the skin over them became discoloured, as if about to ulcerate. When he was admitted into the hospital, the tumor was as large as a small apple, and was hard and irregular. The day after his admission I extirpated the part: the patient manifested great want of fortitude under the operation.

After its removal, the tumor was examined: it had all the appearance and feel of true scirrhus, the nucleus consisting of cartilaginous and fibrous matter, disposed in radii, and being surrounded by condensed cellular membrane. This case is well worthy close attention: the patient was afflicted with a disorder rare among men; but he, in addition to his having a womanly disease, had also a womanly aspect and a womanly spirit.

Mr. Birkett has informed me that in 1837 he met with a case of carcinoma in the breast of a man: the patient was 44 years of age, of an unhealthy aspect, and suffering from indifferent health generally. The tumor, in slight degree, had existed for nine years. Four months before he was seen by Mr. Birkett, he had received a blow on the left nipple. Since that time the tumor had gone on increasing with rapidity: it was firm, circumscribed, hard, but not stony, and the skin around was but slightly implicated in the disease. The tumor was removed by the late Mr. Callaway: the wound healed very readily, and fourteen months after the operation there was no indication of the return of the disease.

Mr. Birkett adds, that he examined the growth after its removal, and, from its appearance and general character, did not doubt but that it was true carcinoma.

CASE OF DEFICIENCY OF THE STYLO-HYOIDEUS MUSCLE. BY MOSES GUNN, M.D., OF ANN ARBOR, MICHIGAN.

The following are the notes of a dissection, exhibiting an entire deficiency of the stylo-hyoideus, an anomaly which I do not recollect to have seen anywhere mentioned.—Subject—a negress, apparently about 16 years of age, and well formed. The integument, and external layer of superficial fascia, were dissected up, and exposed a tolerably developed platysma myoid. Removing this and the sterno-cleido-mastoid with usual care, I commenced the dissection of the supra-hyoid region. The anterior belly of the digrastic was dissected out to the point where its tendon passes into the loop of the fascia which connects it to the hyoid bone. In dissecting out its posterior belly, it was observed to be beautifully developed, though not much exceeding its usual size, and not to pierce muscular fibres, as it usually does those of the stylo-hyoid. The dissection was continued by laying open the loop of fascia which invests its tendon, and turning back the muscle to its origin. This exposed, not the fibres of the stylo-hyoid, but a layer of fascia, removing which, brought to view the stylo-glossus and stylo-pharyngeus in their natural position and ordinarily developed. Adjacent parts were perfectly normal, but not the least trace of the stylo-hyoid could be found. The dissection was repeated upon the opposite side, with additional care, and with the same result.—*New York Journal of Medicine.*

CLINICAL LECTURE
ON
LACERATION OF THE URETHRA.

By John Adams, Esq.
Surgeon to the London Hospital.

Laceration of the Urethra. (Reported by Mr. Skipton.)

Andrew Simmons, aged 42, a Custom-house officer, was admitted into the London Hospital, March 28th, at half-past 4 P.M., under the care of Mr. Adams: it appears that while walking home from his employment, he slipped off the curb-stone, and fell under a cart. Before he could extricate himself from this dangerous position, he received two or three kicks, he cannot exactly tell how many, on the perineum and side, from the horse.

He was immediately brought to the hospital and put to bed. On examination, blood was seen flowing from the urethra, and he complained of inability to pass his water; also of much difficulty of breathing, owing to a fractured rib on the left side: his pulse was small and weak, and his countenance very anxious. A warm bath was ordered directly. A silver catheter was then introduced, but with difficulty, owing to a laceration of the inferior part of the urethra just anterior to the triangular ligament. After the introduction of the instrument, a quantity of clear urine passed away, and the hæmorrhage was gradually checked: it was retained, and thirty drops of Tr. Opii were given, and milk diet ordered, a bandage having been previously applied round his chest.

29th.—He has passed a moderately comfortable night; but the bowels not yet being relieved, he was ordered Haust. Domest. ℥iss. This was repeated in the afternoon, before any effect was produced: the dyspnœa continuing, with anxious countenance, furred tongue, pain on inspiration, and small wiry pulse, he was ordered Mist. Salin. Ant. c. Tr. Opii, ♏vj. 4tis horis. A small quantity of blood has been passed by the side of the instrument, the urine itself being clear: in the evening, complaining of great restlessness, he was ordered Tr. Opii, ♏xx.

30th.—Has passed a very uneasy night, complaining of great pain in the perineum. Mr. Adams removed the silver catheter, and introduced an elastic one in its place; and, the difficulty of breathing and other urgent symptoms remaining, he was ordered Hyd. Chl. gr. j. 4tis horis, with Mist. Salin.; the antimony and Tr. Opii which he had been taking being left off. Fotus Calidus was ordered to the abdomen, where he complained of pain; and, his bowels not being very freely open, he had Ol. Ricini, ℥ss.: not relishing the milk, he was allowed a little broth. The urine still continues to pass freely, and without hæmorrhage.

31st.—Has passed a moderately comfortable night, but from the moment of his admission was always very restless: his bowels not being open, he had a common enema.

April 1st.—Is better; bowels open; the dyspnœa, &c., much diminished; and, the gums becoming affected with mercury, it was left off.

For the next three days he continued to do well: the catheter was withdrawn and another was introduced; and on the 5th he was ordered, in addition to the milk and broth, a little light pudding.

6th.—His bowels not open: ordered—Haust. Domest. ℥iss. st.; to be repeated every four hours if necessary: the catheter was removed at his own request; the bowels freely relieved in the evening, after which he passed a good night.

7th.—Is not quite so well to-day; passes his water freely, but with pain.

8th.—Not so well: the feverish symptoms, which were but slight yesterday, have increased; complains of pain in the side and perineum; skin hot and dry; tongue furred; pulse 100, small and wiry; and the bowels not being well open, was ordered Mist. Sal. Cath. Ant. 4tis horis.

9th.—The feverish symptoms are somewhat abated; still, however, the countenance expresses great anxiety: in the afternoon some clots of blood passed by the urethra: bowels open.

10th.—Has passed a good night, but appears rather depressed, and complains of rigors, and pain in the perineum; pulse small, weak, and frequent: on examination, there was slight hardness observed, but no traces of extravasation: he was ordered—Dec. Cinchon. ℥j., c. Ammon. Sesquicarb. gr. v. 4tis horis; and four ounces of Wine in Sago: and at night, appearing very restless, was ordered—Tr. Opii, ♏xx. (The Mist. Sal. Cath. Ant. was of course left off.)

12th.—His appetite getting better, he was allowed a chop, with a pint of porter.

13th.—Seems uneasy and anxious: the scrotum being thickened and slightly corrugated, one or two incisions were made into it, giving him much ease: the blood from the wounds had a urinary smell.

14th.—The hardness in the perinæum having much increased, a free incision was made into it, when a large quantity of coagulated blood was let out; on the removal of the clots, violent hæmorrhage took place, which was stopped by the pressure of sponges into the wound. When seen in the evening, no return of hæmorrhage had occurred. Was ordered Tr. Opii, ♏xx.; the other remedies to be still continued. The urine passes through the wound.

15th.—Upon the removal of the sponges this morning there was a recurrence of the hæmorrhage, which was stopped, as before, by pressure. The Tr. Opii was repeated again to-night, after which he slept well.

16th.—Seems altogether better and more comfortable to-day; the restlessness and anxiety which he has evinced ever since his admission are much less.

17th.—The sponges were removed from the inside of the wound, and merely applied externally; all his urine comes through the wound, as it has done ever since the incision was made.

During the next three or four days he has evidently much improved in health; the urine still passing through the wound: he complains, however, occasionally of pain in the side, at the seat of fracture.

21st.—A small quantity of urine has passed through the urethra; but the greater part still through the wound in the perineum. From the time of the operation to this day he has continued to take Tr. Opii ♏xx. at night.

25th.—He continues to improve; is still taking the Bark and Ammonia.

May 8th.—The urine passes almost wholly the natural way.

Gentlemen,—The case I have just read to you, presents features of considerable interest, especially in connection with the subject on which I last had the honour of addressing you;—I mean laceration of the urethra, and the consequences arising therefrom. In remarking on this case, I shall dwell particularly on one part especially,—namely, the propriety of retaining the catheter until the cure is complete.

Let us briefly review the features of the case, and afterwards draw our inferences as to the proper treatment to be pursued in cases of this description. This patient was admitted with the characteristic signs of lacerated urethra, on which I dwelt in my last lecture—namely, the hæmorrhage from the urethra, and retention of urine succeeding a severe blow on the perineum; besides which, he had symptoms of fractured rib: this, however, I shall place out of our consideration. The practice always to be pursued in such cases was here followed—that is, a catheter was passed to draw the water off, and this was retained in the bladder. There was slight difficulty in passing the instrument, owing to a laceration of the urethra, as Mr. Skipton supposes, just anterior to the triangular ligament. In the course of three days the instrument was withdrawn, and I passed a silver catheter readily, in doing which I experienced that peculiar sensation of roughness which is indicative of ruptured urethra: this was retained, and the water passed readily through it. A little blood a short time after passed by the side of the catheter, and at the man's request I withdrew the catheter and let it out. You will remark that he passed his water freely enough without the instrument for a few days, but with pain (and this part of the case I wish particularly to dwell upon); some more blood passed by the side of the catheter, and slight swelling and hardness were observed in the perineum. He had now difficulty in making water, which was mixed with blood. When I saw him at this period of the case, I had no doubt that extravasation of urine either had taken place or was about to occur: I therefore watched him from day to day, and when I found the perineum becoming tense, I made a free incision into it, and removed some large clots of blood, mixed with urine. I had much difficulty in arresting the hæmorrhage; but on this subject I shall remark presently.

Now, gentlemen, I cannot help attributing this unfortunate condition to the treatment I was induced to pursue at the especial request of the patient; and I remarked to him at the time that he was running a risk to which I unwillingly subjected him: the result renders any observation on this point unnecessary. How, then, are we to explain the symptoms as they appeared? The case is simple enough. After the removal of the catheter, the urine is observed to flow freely for some days, but its flow is attended with pain. No doubt this results from the acrid urine passing over the lacerated urethra: a slight escape of urine must take place at each evacuation of the bladder: this continuing excites irritation, and the parts being inflamed, and the irritation increasing, ulceration probably occurs, and the bloodvessels supplying the corpus spongiosum urethra give way, and thus a rather copious hæmorrhage occurs: of course the extravasation of urine increases, and the perineum becomes distended, the distension being in the direction of the penis. Now I cannot help attributing the mischief, if not wholly, at any rate in a great measure, to the leaving out of the catheter; and although I will not undertake to say that something of this sort might not have happened, if the instrument had been allowed to remain in, yet no doubt the chances of such an occurrence were materially enhanced by this circumstance. I therefore strongly recommend you in all cases of this description to persist in the retention of the catheter until the cure is complete.

In reference to the treatment now to be pursued, there is no use in meddling with the urethra in the present stage of the disease: any interference with instruments in my opinion does harm: in all probability the wound in the perineum will gradually close up, and all the urine will pass the right way. When this has taken place, I should then advise that the patient should have a catheter passed occasionally, to obviate the occurrence of stricture, which will in all probability result from this severe mechanical injury to the urethra. If, on the contrary, the wound does not close, you must then treat the patient as for fistula in perineo, and as the case, which I related in my last lecture, was treated.

I now revert to the hæmorrhage. You observe that bleeding took place at the onset on the accident, and recurred in clots after the catheter was left out. I attribute the latter hæmorrhage to the giving way of the arteries of the spongy body from ulceration, consequent on the irritation induced by a slight extravasation of urine, these vessels having been previously ruptured by the blow. When I laid open the perineum, and removed the clots, a brisk arterial hæmorrhage was seen, the source of the bleeding being very deep. I could not seize the vessel, and was forced to plug the wound with sponge on two separate occasions, and it all eventually subsided. On the last occasion the source of hæmorrhage was distinctly visible, but the parts were so brittle, that each time I passed the ligature the artery gave way, and the hæmorrhage returned. In another case of this description I would not waste my time in attempting to secure the artery, but I would freely lay the perineum open, so as to expose the parts well, and then carefully plug the wound with successive layers of sponge, through which the urine might gradually infiltrate itself.

HEMORRHOIDS CURED BY SPONTANEOUS SLOUGHING.

James Ronky, admitted fourth mo., 1846, with chronic dysentery: had suffered for three years from hemorrhoidal tumors. They had been always reducible till after his admission, when they protruded completely, along with a portion of the rectum in a state of prolapsus, which could not by any effort be entirely returned. Besides opiates by the mouth and by enema, a poultice was kept constantly to the part, at first of ground flax-seed, and then of slippery elm and liq. plumb. The inflammation and swelling were considerable; and finally the tightness of the sphincter ani induced the strangulation and sloughing of the tumors, all but one. His pain then diminished greatly, and the parts were finally returned. The dysenteric symptoms were altogether improved by the change.

A similar spontaneous cure of piles by sloughing has before occurred in the observation of Dr. Norris.—*American Journal of Medical Sciences.*

Original Communications.

CONTRIBUTIONS TO PATHOLOGY.

By J. Black, M.D.

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Notwithstanding the imperfect detail and curt manner in which the following contributions to pathology are submitted to the notice of the readers of the Medical Gazette, it is presumed that they may not be without interest to the morbid anatomist, and may serve to elucidate some points in pathology, as well as to correct and confirm some of the ever-varying indications of the living diagnosis. It is regretted, however, on the part of the author, that the several cases of *autopsiæ* are not accompanied with the full history of the respective diseases during life; for, though a few are illustrated by a short detail, where the interest of the case seemed more important or attractive, yet the majority only present the leading or interesting lesions of the dead structure. It must, however, be remarked, that the histories of the disease, in a great many of the cases, were either out of the power of medical record, from the patients entering the hospital in the last stages of the complaint, or were of little interest from their common features and severity. It will be seen, or easily inferred, that the great majority of the cases were of a chronic nature, which, from their standing, or the accompanying general cachexia, had produced, or allowed to be propagated, morbid lesions, of more or less extent and severity, into other or more distant organs, besides the primary forms of the disease. There are few or none of the cadaveric cases that display the special effects of a simple lesion running to a fatal issue; for whether the disease began first in the chest or in the abdomen, much radiation of morbid action and lesion to the other cavity, or to some of its contained organs, took place before death.

The cases here recorded are but a small portion of the number of the *cadavera* that were submitted to inspection during the period which the first and last of these contributions embrace; and, it may be mentioned, it was from a special examination of the livers of the inspected generally, that I drew up the statistics of *margarosis* of the Liver, which was published in the 10th vol. of the Provincial Medical Journal. The subjects from which the following contributions were derived were all inspected by the author, who has also to acknowledge the kind assistance of Dr. Francis, late medical officer of the Institution, in many of these investigations, as well as in his pointing out some of the obscure objects of mutual research. Some difficulty has presented itself in arranging these cadaveric cases, so as to make them converge in appropriate groups to some point or centres of pathology, and be as conducive as possible to the elucidation of its doctrines, whether applied to mere science or medical practice. The legitimate mode would perhaps have been to have classed them according to the special pathology, or the intimate nature of their morbid structures; but this mode was relinquished, as well as the attempt to designate the several groups of the morbid lesions by any nosological term. The author has, therefore, adopted the more empiric mode of arranging them in regions and special departments, according as the morbid lesions showed an original habitat, or a greater intensity in one region more than in another; and for these reasons they are classed—first, as those having their original seat and greater intensity in the chest, however remotely disease may have thence radiated; secondly, those having a primary or chief seat and character in the abdomen and pelvis; thirdly, the same relative connection to the region of the head; and fourthly, one or two to special location and structure.

It may be as well to state, before the respective details are entered upon, in order to render the descriptions more short, and yet intelligible, that the term *tuberculosis* in the first, second, and third stage, is occasionally used to denote tubercles in the lungs being in their *miliary* or *occult state*,—their *softened* stage, but not opened into the bronchi,—and their *ulceration* or state of open *vomicæ*. Also, the term *margarosis* is at times used to denote the fatty degeneration of the liver; and *albuminosis* or *granulosis* in the first, second, and third stages, as denoting the granular degeneration to be confined to the cortical part of the kidney,—to be extended to the cones; and thirdly, to the whole organ with contraction of the surface.

With these preliminary observations we shall proceed to the descriptive record of the cases *seriatim*, according to the above-mentioned arrangement, leaving any remarks that may be suggested to the conclusion of each series.

CASE I.—*Phthisis, with colliquative diarrhœa for a week previous to death.*

M. I., female, æt. 33, married: had five children; died the 21st of March, 1845.

Inspectio cadaveris.—Corpse much emaciated.

Lungs.—Right partially adherent to the costæ; lobes distinct, generally beset with occult tubercles and tubercular infiltration, and in the upper lobe posteriorly, a vomica, irregular and cavernous, about the size of a pullet's egg; surrounding parenchyma condensed and congested. Left, adherent from old effused lymph and bands; both lobes condensed into one elongated globular mass; heavy, sinks in water; no natural structure visible. A large ragged, pultaceous and putrescent, cavity, reaching from the posterior and superior apex to the lower and lateral part.

Heart. — Normal in texture and valves; weighs only four and a half ounces avoirdupois.

Liver.— Large and firm; weight 3 lbs. avoirdupois.

Gall-bladder.—Thickened, and having several calculi (picromel) the size of Spanish nuts, polyhedral, and whitish externally.

Spleen.—Natural in size, but infiltrated with gelatinous cells.

Kidneys. — Enlarged, and cortical layer buffy and granulated.

Stomach and intestines.—Natural externally, but attenuated; mucous coat, in many places, bare, without any affection of the glands or lesion of surface.

Uterus.—Natural; ovaries atrophied and fissured: in one a tubercle, and a subsiding bloody *corpus luteum.*

CASE II.—*Phthisis—vomicæ—hydropericardium—corpora lutea.*

E. B., female, æt. 26, died 27th April, 1845.

Insp. cad.—Corpse well formed; much emaciated.

Lungs.—Right, free round all the lobes; upper one condensed and heavy, having a cavernous vomica, lined with a pyogenic purulent membrane, and a smaller ragged one with tubercular induration between them; ambient pneumonia and red hepatization. Middle and lower lobes beset with tubercular patches, seemingly from deposit in the air-cells and smaller bronchi. Left lung: its lobes adherent together and to the costæ: a very large vomica in the upper part; full of dark grumous pus; grey hepatization; some yellow tubercles, and recent pneumonia in the other parts.

Heart.—Natural; pericardium contained 4 oz. of fluid.

Liver.—Normal, with much hepatovenous congestion.

Kidneys.—Pale, with incipient albuminous granulation.

Uterus.—Large, normal in structure. In the left ovary a large *corpus luteum*, puckered, hard, and set in the surface of the stroma. In the right, a lesser one embedded over a *corpus* still smaller.

CASE III.—*Phthisis—pneumonia—sacculated duodenum—ulcerated colon.*

M. G., female, æt. 36, spare frame, was three weeks in the hospital afflicted with colliquative diarrhœa; the stools watery and yellow, mixed with shreds and mucus; cough; dyspnœa; but little expectoration; occasional vomiting of a greenish watery mucous fluid. She died, in a state of anemic exhaustion, the 14th May, 1845.

Insp. cad.—Corpse much emaciated.

Lungs — Right pleuræ free; the cavity contained a pint of yellowish flaky serum. Lung dense, œdematous, but buoyant in water; red, with some grey hepatization, and some detached tubercles. In upper lobe, two or three grumous and sanguinolent cavities, each about the size of a nutmeg; general parenchyma very spongy, and, when pressed, exuding at the section nipples of pus. Left, generally adherent to the costæ; no effusion; red hepatization and partial tubercular infiltration.

Heart.—Very small, not the size of her fist, empty, and firmly contracted.

Liver.—Large, smooth, weight 5 lbs., mottled yellow and red. On section, firm, but rather coarse and friable;

portal system much developed; parenchyma buffy, yellow, and brown; decidedly fatty under the microscope.

Gall-bladder.—Three-fourths full of yellow fluid bile.

Stomach.—Coats thin and soft: interior softened or bare; ecchymotic arborescence in the right end; the rest pale, with white rugæ. Pylorus natural. Duodenum enormously distended for five inches, equal in circumference to the pyloric end of the stomach, and would easily hold the closed hand. Its mucous coat softened and patched with red towards the pylorus. The pancreatic and biliary ducts remarked entering this sac in nipple-like processes.

Intestines.—Small, very thin, and diaphanous; the inner tunic softened, somewhat bare, without ulceration.

Colon. — Attenuated, mucous coat abraded or bare, and in parts removed as from weak corrosion, which is more apparent in the sigmoid and rectum, where are many corroded ulcers without thickening. No follicular, glandular, nor mesenteric disease.

Kidneys.—Natural in size, but incipient granulation in the cortical substance.

Spleen and uterus.—Natural. Ovaria beset with a few dark *corpora* immediately under the peritoneal coat, and with two sub-yellow bodies in the stroma; the former false, the latter true *corpora lutea.*

CASE IV. — *Phthisis and granulated kidney.*

M. J., æt. 36, female, died May 18.

Insp. cad.—Chest: Slight old adhesions in both pleural cavities.

Lungs.— Infiltrated with serosity, spongy, and condensed posteriorly; crude and miliary tubercles disseminated throughout. No vomicæ nor pus.

Heart. — Natural, but somewhat fatty.

Liver.—Weight, 3 lbs. 6½ oz.; smooth, dark, livid, and fleshy; gall-bladder full of brownish yellow bile; spleen large and granulated.

Kidneys.—Enlarged, outwardly rough, from pale mammillary granulations; cortical tissue buffy, granular; cones and infundibula dark and inflamed; a urinous cyst, the size of a Spanish nut, imbedded in the cortex of the upper part of each.

Stomach.—Large, mucous coat thickened, softened, and papillary, with capillary redness towards the pylorus, without ulcer or abrasion. Large bowels full of scybalæ.

Liver.—Analysis: not the least trace of oil or fat, but very albuminous. Many red globules and broken cells apparent by the microscope.

CASE V.—*Phthisis—Vomica—Hepatizations.*

J. L., male, æt. 45, died 23d May, 1845.

Insp. cad.—Lungs: left infiltrated throughout with crude and softened tubercles, surrounded by red and grey hepatization. A vomica, as large as the fist, in the apex, and many small ones through the inferior lobe. In the right, tubercles to less extent; several small vomicæ in the upper lobe.

Liver.—Weight, with gall-bladder, 3 lbs. 5 oz.; pretty firm; hepato-venous system hyperæmiated; portal less so; a few fat cells observed with the microscope.

CASE VI.—*Phthisis—Tuberculosis—third stage.*

P. D., male, æt. 40, died 26th May, 1845.

Insp. cad.—Lungs: right completely adherent to the costæ, except where separated by irregular depôts of grumous pus; was thoroughly occupied with sinuous and ragged caverns from the apex to the base, the solid walls of which were completely tuberculated, with not a piece of normal parenchyma left. Left, free from adhesions: its colour and volume natural. In the upper lobe, disseminated tubercles, with congestive hyperæmia; the lower more tubercular, with the parenchyma either natural or hepatized.

Liver.—Weight, 3 lbs. 4 oz.; smooth, bright, and livid, rather friable, a little greasy; acini sub-yellow. Microscope: oil cells small and few; from boiling, a mere film of margarine.

Kidneys in a state of proto-granulation.

This patient had been in hospital three weeks, and had an attack of hæmoptysis to one quart, followed by grumous sputa, and anasarca of limbs and hands.

CASE VII.—*Phthisis and Pleuritis.*

G. D., male, æt. 45, died 4th June, 1845.

Insp. cad.—Corpse well formed, and in good *embonpoint.*

Chest.—Left cavity contained four pints of serosity; pleural membrane rough; a small cavernous vomica lined with pyogenic membrane in the upper lobe; the rest of the organ either beset with tubercles, red hepatization, or recent pneumonia. Right cavity natural; lung with disseminated crude tubercles, some red hepatization, and pneumonia.

Liver.—Weight, 3 lbs. 10 oz; rather granular on the surface, pale and white, mottled with hepato-venous congestion. Analysis—2 per cent. margarine in the mass.

Spleen.—Small and firm; kidneys natural; heart rather large, and full of dark coagula.

CASE VIII.—*Phthisis—Large vomicæ.*

M. J., female, æt. 40, died 6th June, 1845.

Insp. cad.—Corpse much emaciated.

Chest.—Dense and general adhesions, not separable without laceration of the lungs.

Lungs.—Left, large and firm; a vomica, as large as the fist, in the upper lobe, within which the parenchyma was bare, and the vessels exposed and corroded. Lower lobe dense, fibrous: bronchi much enlarged, hypertrophied, and the membrane ulcerated and corroded. Right, densely tuberculated; small vomicæ, with patches of pneumonia.

Heart.—Large; walls thin; containing black coagula.

Spleen. — Large, dark, normal in structure.

Kidneys.—Normal, but congested.

Liver.—Weight, 3 lbs. 9½ oz.; firm, pale, mottled; hepato-venous hyperæmia; 1·5 per cent. of margarine from boiling. Gall-bladder had several nodules of bright yellow inspissated bile, with semi-crystalline cholesterine.

Intestines.—Empty, natural exteriorly.

CASE IX.—*Pleural effusion—Pulmonic abscess—Epileptic.*

R. D., male, æt. 29, died 8th June, 1845.

Insp. cad.—Corpse tall, thin, but not much emaciated.

Chest.—In right cavity, a few long and firm adhesions, with four pints of sero-purulent fluid; lung compressed, with a buffy and leathery coat; an abscess-cavity, the size of the fist, in the upper lobe, with pleural perforation, but no debris of vessels or bronchi in it; no tubercles.

Left lung.—Pleura free, but studded with miliary roughness; pneumonia in the second stage; no condensation nor tubercles. Pericardium contained four ounces of serum, was rough, and coated with buffy lymph. Marks of attrition very evident posteriorly; walls of the left ventricle hypertrophied; all the valves normal; no endocarditis, but numerous firm and adherent fibrinous coagula in the cavities.

Liver.—Weight, 3 lbs. 6 oz.; normal in appearance. Microscope showed abundance of hepatic cells; no fat ovules. Gall-bladder full of yellow bile.

Kidneys.—Congested, with incipient degeneration.

Head not opened.

CASE X.—*Phthisis—General tuberculosis.*

S. M., female, unmarried, æt. 26, delicate frame, three weeks in hospital, died 8th July, 1845.

Insp. cad.—Corpse very much emaciated.

Lungs generally adherent to the costæ; weight of both, 4 lbs. 1 oz.; several cavernous vomicæ, with ragged and dense walls; little pus in the cavities or bronchi; a small portion only at the base of each lung, pervious and crepitous.

Heart.—Natural, with a pyriform white fibrous coagulum in each ventricle, having a tail-like process up through the *ostia.*

Liver. — Weight, 3 lbs.; left lobe large: the whole bloody, soft, and somewhat friable; hepato-venous congestion; not the least trace of fat nor oil by the microscope or boiling.

Kidneys.—Left larger than natural; weight, 7 oz.; partial albuminosis; right less than natural; more normal in structure. Spleen large, but natural in structure. Intestines empty; normal externally. Uterus natural, but *os* fissured. Ovaria pale, large, with a recent dark *corpus* in the distal periphery of each, both having a small red coagulum pendent in the abdomen.

N.B.—An intense case of ulcerated tuberculosis, and yet no fat in the liver.

Case XI.—*Phthisis — Vomicæ — Polypus cordis (?)*

J. H., female, æt. 26, three weeks in hospital, died 11th July, 1845.

Insp. cad. — Corpse greatly emaciated.

Chest.—About 10 oz. of buffy coloured serum in a pleural cyst in the upper part of left side; the lung generally adherent, condensed, and tuberculated throughout, having in the upper lobe ulcerated cavities, ragged, bare, and sinuous; edges of the lower lobe rounded and firm. Right lung: tubercular diffusion, with vomicæ and ulceration; spongy with serum; atonic pneumonia in the other parts, with hyperæmia and grey hepatization.

Heart and vessels.—Natural, with a white fibrinous coagulum in each ventricle, stretching into the arteries, with a perfect mould of the valves.

Stomach.—Large, empty, but full of gas. *Intestines* natural, but attenuated. *Spleen* soft and dark.

Kidneys. — Incipient degeneration. Uterus and ovaria normal, with some dark recent *corpora* in each of the latter.

Liver.—Weight, 3 lbs. 5 oz.; smooth, white, mottled, soft, friable; hepatovenous hyperæmia, with a buff speck in the centre of the lobule; portal system exsanguineous.

Case XII.—*Hydrothorax — Paracentesis.*

J. P., a musician, æt. 30, one week in hospital, died 11th July, 1845.

Insp. cad.—(Had paracentesis, to the evacuation of 75 oz., performed six days before his death.) *Chest.*—Right cavity was found full of bloody serum; lung quite compressed and atrophied, with a dense layer of fibrine all over its surface. Left cavity natural, but lung much congested and diminished in size, from mediastinal encroachment.

Liver.—Weight, 3 lbs.; dense, dark, bloody, having the portal system hyperæmiated; the hepatic veins empty.

Case XIII.—*Phthisis—Ulcerated colon.*

W. W., male, a flute-player, æt. 34, blind of both eyes, and had severe diarrhœa, died 14th June, 1845.

Insp. cad.—Corpse much emaciated.

Lungs.—Universally tubercular, with ragged vomicæ in the upper lobes, half filled with dark and thin grumous matter; the right one more advanced in lesion, adherent to the costæ, friable; had no natural parenchyma, but some pneumonic spots.

Heart—large, dark, soft, and flabby; *liver* small, dark, livid, and rather soft; *kidneys*—incipient albuminosis; *small intestines* — thin, diaphanous; no glandular change nor ulceration; *large*, full of soft fæces; inner coats thin, and extensively abraded and ulcerated, without special follicular disease.

Case XIV.—*Phthisis—Tuberculated liver.*

A. C., female, unmarried, æt. 27, in hospital two months with phthisis: was pregnant, but did not own to be so till she was seized with labour pains on the 17th August, 1845. She was soon delivered of a living child of about 7 months; but in two hours afterwards she died from exhaustion, without much hæmorrhage.

Insp. cad.—Corpse not greatly emaciated; about three-quarters of an inch of adipose fat on the abdominal parietes.

Chest.—No effusion, but partial adhesion generally, and firm at the upper part of each lung. Right: in the upper lobe a densely coated cyst, the size of an egg, with its inner surface smooth, and lined with a velvety mucous membrane; another smaller one adjoining, of the same character, with some puckering in its walls, as if there had been an arrestment of the ulcerative process, or a tendency to heal—perhaps from the influence of pregnancy. The rest of the lung was full of recently disseminated tubercles of a vegetative or cauliflower form. The inferior part of the lower lobe had red hepatization, and was soft from congestion. Left lung tuberculated with whitish mammillæ; no vomicæ; some grey hepatization; other portions red, hepatized, and pneumonic.

Heart firm, normal, and of good size. Stomach and intestines outwardly natural, and the omentum and mesentery well furnished with adipose matter.

Spleen rather large, and was light, purple, and soft.

Kidneys mottled, and externally irregular. On section, fatty in appearance; granulation in the cortical part, and partly in the cones; weight of both, 11 oz.

Uterus filled the pelvis to the brim; the size of two fists, and weight, with appendages, 1 lb. 7 oz.: it was firm, with a small coagulum internally. Ovaria had many cicatrices, but no distinct *corpus luteum*.

Liver.—Weight 7 lbs. 1 oz., smooth. of an ashy-buff colour; consistence firm, but yielding, like soft cheese, Little vascularity to be seen, but a uniform plastic mass, approaching to firm soap in colour and texture; no fat-cells discernible, nor yet could any margarine be detected by boiling, and all reagents, as liq. pot. and hydrochloric acid, showed the mass consisted of albumen. In fact, the deposit appeared to be a true *albuminosis*, filling all the parenchyma of the organ, and obliterating the vascular texture: it might be held to be a large deposit of plastic tubercular matter.

Case XV.—*Phthisis —Vomicæ— Uterine tumors—Fatty liver.*

E. C., female, æt. 45, two months in hospital, had profuse expectoration of purulent curdy matter, with ragged pieces of dark grumous tissue. Appetite was good; lived well till near her death, and had for a month a pint and a half of porter daily; she died 23d August, 1845.

Insp. cad.—Corpse moderately emaciated, with some œdema of the lower extremities.

Lungs.—Both adherent to the upper costæ, with little or no pleural effusion; dense; right weighed 3 lbs. 14¼ oz., the left 1 lb. 2 oz. The left contained a purulent grumous cavity, the size of a large fist, in the upper lobe; the remainder and the other lobe firmly tuberculated, hepatized inferiorly. Right, in last stage of tuberculosis; penetrated throughout with small vomicæ, the size of peas and nutmegs.

Heart large, but normal in structure.

Stomach and intestines natural, full in texture, and seemed well nourished.

Kidneys.—Weight of both, 12 oz.; right larger, normal in texture, left slightly degenerated and contracted.

Uterus.—Natural in size; cervix narrow, dark, livid; os turgid, and almost occluded with a shred of mucosity hanging out; vagina very narrow, as if contracted. There were five white fibro-scirrhous tumors, each the size of a small cherry, on the posterior peritoneal coat, and attached by small pedicles.

Liver.—Weight, 4 lbs. 14 oz., large, smooth, mottled with buff and white, friable, greasy, light to its volume, hepato-venous congestion. By microscope, full of oil cells; from analysis by boiling and ether, the margarine amounted to 22 per cent., equal to 17·16 oz. of the whole mass of the liver.

Case XVI.—*Phthisis—Vomicæ—General tuberculosis.*

S. M., male, æt. 29, three months in hospital.

Insp. cad.—Corpse much emaciated.

Lungs.—Right unadherent to the costal pleura; in upper lobe a grumous tubercular cavity, general tuberculosis in the other lobes. Left adherent, a grumous diffluent vomica in the upper lobe; in the lower, tuberculosis in the second stage. Heart and large vessels natural. Stomach not examined. Small intestines softened, mucous tunic in different stages of ulceration, some cicatrices. Mesenteric glands enlarged and knotty. Kidneys, incipient granulation.

Liver.—Weight, 3 lbs. 7 oz., smooth, *acini* large and well defined, portal or areolar hyperæmia; hepato-venous system empty. By microscope, small, thickly disseminated oil-cells, many nucleolated, coloured oil (margarine) 4·58 per cent.

Case XVII.—*Phthisis—Fatty liver—Ulcers and perforation of the Ileum.*

C. H., female, married, one child, æt. 28. Ill three months: came in with symptoms of muco-enteritis and diarrhœa, which ceased a fortnight before death. Had little complaint of her chest at first, which ended latterly in much cough, retching, copious sputa, and exhaustion. Died Dec. 12, 1845.

Insp. cad.—Much emaciation and muscular attenuation. No effusions in the pleura, adhesions in right side only.

Lungs.—Left: lower lobe natural, upper in second stage of tuberculosis. Right: two upper lobes in the third stage, having a vomica and sinuous ulceration; the lower lobe in second stage of tuberculosis: weight, 3 lbs. 10 oz.

Heart.—Small, weight only 3 oz.,

normal in structure, water in the pericardium to 4 oz.

Liver.—Weight 3 lbs. 2 oz., large, smooth, distended and glistening: on section, pale buff, soft and greasy to the knife, normally sanguine. By microscope, full of compressed fat cells; by analysis, 10 6 per cent. of margarine. Gall-bladder three fourths full of pale liquid bile.

Kidneys.—Large, hyperæmiated, and in the first stage of degeneration.

Stomach and intestines.—Exteriorly normal, except eight circular contracted patches at the lower end of the ileum, red mottled, and beset with buffy bases; peritoneal coat involved, and having one perforation the size of a fourpenny piece, but no extravasation. Internally these patches were rough and ulcerated, but partial restoration of the mucous coat in some parts had taken place; no pus in or on the Peyerian glands, but some in the follicles. Two or three tumors in the mesentery, scirrhous or tubercular.

CASE XVIII.—*Phthisis—Vomicæ—Altered Aortic Valves.*

S. E., male, æt. 15, six months in hospital with phthisis and intermittent muculent diarrhœa: died Dec. 19, 1845.

Insp. cad.—Corpse greatly emaciated.

Lungs.—Right upper lobe tuberculated throughout with many vomicæ, filled with thick cream-coloured pus. Middle lobe tuberculated in second stage; the lower hepatized, red. Left lung thickly tuberculated with small vomicæ and grey hepatization; all firmly adherent to the costæ.

Heart.—Large, weight 7¾ oz., normal, except the left auriculo-ventricular ostium, which was beset with a border of rough and elevated vegetations.

Kidneys.—Weight of both 8¾ oz., congested; the left in incipient granulation, capsule too adherent; texture mottled, livid, and buff.

Intestines.—Pale, with dark mottled firm patches, corresponding to old lesions and healing ulcers in the interior. Mesenteric glands enlarged and knotty.

Liver.—Weight 3 lb. 4 oz., large, smooth, sub-livid, firm, uniform, hepato-venous congestion. By microscope, fat normal, but not confined to the cells, but lying between them in the unbroken tissue.

CASE XIX.—*Phthisis—Hepatization—formerly Ruptured Uterus.*

J. H., female, æt. 39, had ruptured uterus thirteen years ago, and living children since: died 24th Dec. 1845.

Insp. cad.—*Lungs:* right attached to the costa by a few firm old adhesions; upper lobe tuberculated in the first and second stage, grey hepatization, with much black matter. Lower lobe grey, hepatized, with some normal and pneumonic spots. Left, adherent to the ribs closely, much condensed and hepatized.

Heart.—Large, walls normal in thickness, valves normal, except the mitral, which was carunculated.

Liver.—3 lbs. 7 oz., mottled, buffy, and bloody on section; firm, but a little greasy; by analysis, six per cent. of margarine. Gall bladder and spleen normal. Stomach much enlarged. Kidneys small, externally albuminosed.

Uterus.—A fold of the ileum intimately adherent to the right appendage; normal in size and structure, but much condensed and hardened on a line between the cervix and body to the anterior and right side.

[To be continued.]

CASES AND OBSERVATIONS ON
MEDICAL PRACTICE.

By CHARLES BINNY, M.D.,
Arbroath.

Case of Diseased Heart—Diagnosis of Fatty Degeneration of the Organ.

J. G., aged 67, was much exposed during a very wet afternoon, and having when in that state to walk home nearly three miles, complained on arriving that he felt unwell, and had severe griping pains in the abdomen; in a few hours diarrhœa came on, and during that evening had several motions of a thin gruelly consistence. Vomiting and pain continuing, he took a glass of brandy and water, and in the meantime sent a note to his medical adviser not to visit him, but to send him a few chalk powders, which was done; but as a relation had called and ordered tincture of opium, the chalk powders were returned.

J. G. was visited next day by the family doctor, who found him much better of the diarrhœa, but observed a peculiar excited manner about him:

pupils much contracted: advised his remaining very quiet, and by no means to get out of bed till he saw him again. At evening visit J. G. was much in the same state. The man-servant had orders not to leave him during the night, but his master declared himself so well that he sent him to bed: when visited at three o'clock, J. G. was found insensible, and breathing stertorously.

He died a few hours afterwards.

Examination of the body on the following day.—General appearance very muscular, and adipose tissue abundant. Slight exudation; bloody serum from nostrils.

Head. — Dura mater adherent in different spots to the calvarium; vessels on the surface of the brain much congested; and arachnoid very vascular, and vessels much congested. On removing the brain, four ounces of blood, mixed with serum, were found effused. Bloodvessels forming circle of Willis very large, and here and there studded with atheromatous deposit; convolutions of brain very distinct, and deep sulci between each. On cutting into the brain, many bloody points were visible; consistence quite natural.

Chest. — Left lung adhering very strongly to the ribs, and unable to remove it by the hand. Right lung not adherent, but on that side of the chest considerable effusion of blood and serum. No tubercles in the lungs, both quite healthy, and everywhere pervious to air. Heart natural in size. Pericardium slightly distended with fluid at the lower part; on opening, it contained about two and a half ounces of bloody serum. A considerable layer of fat was seen over the heart. On raising the heart for removal, a small oozing of blood was perceived coming through the right ventricle near the base, which presented on examination an opening the size of a pea, with the edges beautifully rounded off. The heart was carefully removed. Aorta at origin much dilated, nearly large enough to hold a lemon, and spotted here and there with atheromatous deposit. Mitral valves healthy. Aortic valves, one converted into a ridge of bone; others spotted with similar deposit to the aor a. On opening the right ventricle, the walls of which were near the base, not thicker than a shilling, and very soft and fatty. On looking through the hole in the ventricle, opposite a lighted candle, the light was not observable, from one of the musculi pectinati completely closing the opening. On gently removing this, a distinct aperture was perceived.

Abdomen. — Stomach and bowels quite healthy; liver natural in size, and presented nothing peculiar. Left kidney small and cortical; substance easily torn off, presenting below granular degeneration. Right kidney natural in size, but near the centre a stone weighing eleven grains was found, and deposited on each side of the origin of the ureter were two small gritty bodies, rather soft, round, and covered with sandy scales, on opening which many beautiful white crystals of triple phosphate were found. On removing one of the bodies, one drachm of pus escaped from the kidney. No obstruction existed between the ureter and the right kidney. This kidney presented the same appearance of granular degeneration as the other. The previous history of the patient I am not fully acquainted with. I believe he had once had a severe attack of pleurisy, and, on the chest being examined, he was made aware of disease of the heart. Had once or twice, as he said, severe attacks of lumbago in the right lumbar region; found that any excess at table brought on an attack of pain in that region, and has, in consequence, lived for twenty years abstemiously, never drinking more than two glasses of wine. Lately he often felt giddy, and complained of a sinking sensation,—often, when riding, obliging him to dismount. When leaning his back to the wall, he remained in that position till he recovered, and then rode home. On other occasions he had felt similar attacks, once when out walking, and once going upstairs to bed, from both of which he recovered by remaining for a time in the position he was seized till the sinking sensation went off. He often complained of violent painful palpitations of the heart during the night.

Case of Triplets.

On the morning of April 17th I was called to visit Mrs. S., five miles in the country. On my arrival I found that labour had commenced, and that on the afternoon of the 14th she had become alarmed, from the sudden loss of some pints of water which flowed per vaginam on the floor: no pains coming on, I was not sent for till the 17th. On making an examination, I found the head of a child presenting, the os uteri being slightly dilated. The pains, a few of which she had experienced before sending for me, now left her for some hours, during which I attended a person next door, who was quite well when I first arrived, and was to have acted as nurse to Mrs. S., who was herself in two hours delivered of a son. Mrs. S. lingered on: uterus much dilated, but the head making no advancement, when I discovered a face presentation. I waited a few hours longer; and then, finding matters still stationary, I sent into town for my friend Dr. D. Arnott, who brought the forceps and ergot of rye with him. As there was abundance of room in the pelvis, a dose of ergot was administered. A few minutes after, pains commenced with vigour, and had the effect of advancing the head; so that Dr. A., on making an examination, was able to pass the finger round to the occiput; a strong pain occurring, the face was turned to right sacro-iliac synchondrosis, and the head was immediately expelled. In a few seconds, a second child was born: the right leg was lying by the side of the head; the membranes were entire, very tough, and dry; the liquor amnii had escaped: the placenta of this child immediately followed, which was very small. The head of a third child was then found presenting through the membranes, which were entire, and very much distended with liquor amnii. On rupturing them, the water rushed out with great force, and in large quantity: a single pain sufficed to throw both child and double placenta forcibly into the world.

The first child was a girl, 4 lbs. weight, 16 inches long.

The second child was a boy, 3 lbs. weight, 15 inches long.

The third child was a boy, 5½ lbs. weight, 17½ inches long.

There was nothing more particular in this pregnancy than what the patient had felt in her ten previous ones, except the great increase of size, which prevented her walking about for the last two months. I had made her aware of twins, from the use of the stethoscope after labour had commenced.

Her only complaint was great acidity of the stomach, for which she used daily some ounces of Carb. Sodæ, and lived principally on green *kale* boiled in water with a little salt, no other food agreeing with her. Since her confinement all acidity is gone, and she now takes her usual food without uneasiness. Mrs. S. had had ten children before this, at the full time, and is now in her 39th year. The three children are doing well, and have all the appearance of living: the mother has made a good recovery, and is now going about the house as usual.

MEDICAL WITNESSES SHOULD KNOW TO WHAT THEY CAN TESTIFY. DANGER OF GIVING MEDICAL EVIDENCE WITHOUT REFERENCE TO FACTS.

A TRIAL took place not long since in the U. S. court at Boston, which involved the right to a patent for tinning lead pipe for the supply of water in Boston.

On this trial Professor Renwick was called as a witness, and testified decidedly as to the injury of unprotected lead on water, and the necessity of protecting, by tinning the lead; so that he would not *on any account* use lead pipe without tinning. *Cross examination.*—Do you use Croton water? (*i. e.*, water supplied by the Croton aqueduct).—Yes. Ever experience any injury?—None whatever. What pipe is used?—I *presume* tinned lead. The plumber who put in the pipe was then called, and testified that the pipe laid was all common *lead pipe*!

On the same trial Dr. Lee was called, who testified very strongly as to the deleterious effect of lead pipe on the Croton water, and that he would not have the water brought into his house, because his landlord refused to put in tinned pipe, and he therefore got his water in the street, from a free hydrant, where he said *no lead was used. Cross-examination.*—Have you experienced any ill effects from using the Croton water from the street hydrant?—No. The plumber who put in this hydrant was called, and testified that the pipe used for the hydrant was *pure lead.*—*Philadelphia Med. Examiner*, 1848.

⁂ This is what barristers technically call "knocking up evidence." It is inexplicable that scientific men should have appeared in the witness-box on such an occasion without being prepared with an accurate knowledge of the means by which they were supplied with water. The essence of their case depended upon *facts*, and they remained satisfied with a *presumption* or conjecture. The cross-examiner ingeniously procured all the evidence he required out of the patentee's own witnesses.

MEDICAL GAZETTE.

FRIDAY, MAY 11, 1849.

THERE is every reason to believe that the grievances under which Naval Assistant-Surgeons suffer, will ere long receive from the House of Commons that attention which the importance of the question demands. In some remarks made in our last volume,* we endeavoured to point out the palpable injustice with which naval medical officers are treated. It would seem as if the Admiralty had an earnest desire to discourage medical men from entering the Navy. In the treatment of their medical officers, they set at defiance the order of the Sovereign; and place them on a lower level than boatswains, gunners, and carpenters. Thus the educated assistant-surgeon is not permitted to have a cabin, nor is he allowed to associate with those who are his equals in age, education, and social position. The Admiralty compel him to associate with boys, and condemn him to the cock-pit, where he has neither the opportunity of study, nor the enjoyment of those decencies and conveniences of life, which an educated medical officer engaged in the public service has a right to expect. More than forty years have elapsed since the Royal order was issued to the effect that medical officers of the sea and land forces should hold the same rank, and receive the same pay. The spirit of this order has been studiously evaded upon frivolous pretences; and the Assistant-surgeon of the Navy, although nominally holding the same title, is deprived of all the privileges, and degraded far below the Assistant-surgeon of the Army, with whom he is supposed to rank. This has led to a result which might have been anticipated, and which is ably set forth in a pamphlet on the case of the Assistant-surgeons now before us.*

> "The office of Naval Assistant-Surgeon is at present regarded at the great medical schools, and by the professional public in general, as the very lowest grade of medical employment. This is a remarkable and not unimportant fact, the bearing of which on the efficiency of the Naval Medical Department, and consequently upon that of the whole naval service, has been so much felt by the Medical Director-General, that he has considered it his duty on more than one occasion to urge the propriety, nay, the absolute necessity, of applying the only remedy for such a state of things, by admitting the Naval Assistant-Surgeons to a full participation of the privileges accorded to other officers of corresponding rank."

The Admiralty appear to think that, in giving the nominal rank without the *privileges*, they are carrying out the Royal mandate; but surely it requires no argument to show that, in thus dealing with the question, they are acting not only against common justice, but in a spirit entirely adverse to public expediency. The strange prejudice with which the Admiralty regard this question, is sufficiently demonstrated in their refusal to notice the numerous memorials, petitions, and remonstrances, which have been addressed to them in favour of the Assistant-surgeons by various and influential bodies. In spite of the reasonableness and justice of their claims, the Admiralty still hold out against making even the smallest concession. It is pretty clear, therefore, that the only chance of obtaining justice will be by an appeal to Parliament.

The author of the pamphlet thus states the case with respect to the

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* MEDICAL GAZETTE, vol. xlii. pp. 755 and 972.

* An Exposition of the Case of the Assistant-Surgeons of the Royal Navy. By a Naval Medical Officer. London: Churchill. 1849.

Royal order, and the mode in which it has been *dis*obeyed by the Admiralty :—

> " It was not until the year 1805 that the Board of Admiralty, then under the presidency of the late Viscount Melville, feeling it impossible under the system then pursued to obtain the services of a sufficient number of medical officers of any kind, called upon the Sick and Hurt Board to make such a proposal to them as would induce properly qualified men to enter the Naval Medical Service. The result was that an order in Council was passed to the effect, that " the naval service having suffered materially in the present war from the want of Surgeons and Surgeons' Mates, and the difficulty of procuring properly qualified persons being in a great measure attributed to the more liberal provision made for the same description of officers in his Majesty's land forces, Regimental Surgeons being allowed to rank with Captains, and their assistants with subaltern officers," it was therefore resolved, " as an adoption of great advantage to his Majesty's naval service, that the said Naval Medical Officers should have the same rank with the officers of the same class in his Majesty's land forces.
>
> " With the rank thus obtained it was expected, as a matter of course, that the concomitant advantages would follow. The object of the Government was obtained, for from this time a far superior class of men entered the Naval Medical Service. But it will hardly be credited, that up to the present hour the Naval Assistant-Surgeon, although nominally holding the rank of a Lieutenant in the Army, with an education general and professional the same as that of the Army Assistant-Surgeon, having passed through a course of professional studies more extensive than that required by the Royal Colleges of Surgeons of the United Kingdom, probably possessing the degree of 'Doctor of Medicine,' and conversant with natural history and other branches of science, is still, as were the Surgeons' Mates in their worst days, destined to remain in the Midshipmen's berth."

If naval assistant surgeons had indulged in the hope that the Admiralty Board would spontaneously make a change in their condition, the recent publication of the following order, which we take from one of the daily journals, will show them that there is no ground for the expectation :—

> The following extract is from a memorandum, dated Admiralty, Feb. 1, 1849:—" On the first appointment of a medical officer, he shall receive a commission as acting assistant surgeon, and shall remain as such during a probation of twelve months, after which, if he produce the required certificates, he shall be confirmed as assistant surgeon, from the date of his first appointment. He shall, while serving in either of the before mentioned capacities, only be entitled to mess with the mates and midshipmen, in the gun-room, or, as the case may be, according to the rating of the ship."

They may hereby learn that they will never take the rank of ward-room officers by the will of the Admiralty : on the contrary, from this memorandum, the object of the Board appears to be to keep them in a state of " Roderick Randomism," *i. e.* to take from them that gentlemanly status which they would receive in society on shore.

Wherever there is injustice there is necessarily inconsistency; it is impossible to strain the rules of right without making the effort apparent by some inconsistent exception. The officers who enter the Naval service at the age of manhood, and only after they have completed their general and professional education, are Chaplains, Surgeons, Assistant Surgeons, and Naval Instructors. All of these, *with the single exception* of the Assistant Surgeon, are ward-room officers from the day they join the service !

> " It is thus quite evident that the Assistant-Surgeon is the only officer who having reached the period of manhood, and acquired a profession altogether independently of the service, is refused admission to the society of other officers of his own age. It may be asked why is this so? Is his rank,

that of a Lieutenant in the Army, too low to qualify him for ward-room privileges? The simple answer to this is, "there are already two officers in the ward-room, one of whom, the First Lieutenant of Marines, is the equal, and the other, the Second Lieutenant of Marines, is the inferior in rank to the Assistant-Surgeon. Notwithstanding the express wording of the order in Council, which says, "*the said Naval Medical Officers should have the same rank with the officers of the same class in his Majesty's land forces,*" the degradation of the Naval Assistant-Surgeon is strikingly apparent on any occasion when troops are embarked in a man-of-war. The Army Assistant-Surgeon then, by right, takes his place among the officers at the ward-room table, while his Naval brother, who is mocked with the same rank, is to be found in the gun-room or cockpit with the Midshipmen. The position of the Naval Assistant-Surgeon will seem still more anomalous, and more bitterly absurd, when it is stated, that in the event of his being ordered to do duty with the marines, and *with them* embark in a man-of-war, he then becomes entitled to the ward-room, if only of one day's standing in the service, while his brother officer employed in the medical duties of the ship can hope for nothing more than the cockpit, although he may have been twenty years in the service."

Why are the assistant-surgeons thus made the exception? The writer of the pamphlet before us shows that the objections which have been urged to their admission to the Ward-room, have no foundation in reason or justice. We consider that they are really too frivolous to require serious discussion. We are told that a separate cabin cannot be allowed for the assistant-surgeon, because there is no room in ships, especially in small brigs. If the improvement of the mind by study and reflection be, as it undoubtedly is, indispensable to naval medical officers, the concession of a cabin becomes a real necessity. Surely the Admiralty must be aware that the benefit which the sick seamen will derive from an assistant-surgeon must be in proportion as his qualifications are efficiently maintained by reading and the private study of his profession: but the objection is a mere pretence. The gunner, boatswain, and carpenter, have each a cabin, and if there be room for separate cabins for these persons, there can be no difficulty in providing a cabin for the assistant-surgeon. Besides, as the Admiralty have for some years past been trying some remarkable experiments in ship-building, to the great damage, as it is alleged, of the public purse, there would be no great difficulty in providing one small cabin for the assistant-surgeon in all vessels which are now in progress of construction on the stocks. As a summary we may state that—

"The grounds upon which the claims of the assistant-surgeons to ward-room privileges rest, may be thus briefly recapitulated:—

"I. Order in Council of 1805, conferring upon them the same rank as that of their brethren in the army, which is that of Lieutenant in the Army.

"II. The obviously inferred recommendations of the Select Committee, &c., last year, when they stated the causes which were considered by Sir William Burnett to lead to the great scarcity of candidates for the situation of Naval Assistant-Surgeon.

"III. The rank of the Assistant-Surgeon being equal to that of the First Lieutenant of Marines, consequently superior to that of the Second Lieutenant of Marines, both of whom are ward-room officers.

"IV. Their status in society on shore, by virtue of their profession and education, and their having attained the age of manhood.

"V. Assistant-Surgeons being the only officers who, having completed their education and acquired their profession before entering the service, are denied the ward-room; the chaplains and naval instructors both becoming ward-room officers the moment they join it.

"Lastly. The claim put forward by the assistant-surgeons when they ask to be placed in a position that will enable them to benefit, to the best of their power, the seamen of the Royal Navy, and through them the country generally."

From the facts here stated, there cannot be the slightest doubt that naval assistant surgeons are placed in a most unfair position by the proceedings of the Admiralty. Privileges are conceded to gunners and boatswains which are denied to them. A naval instructor has the run of the ward-room, while they are banished to the cock-pit. Such a mode of treatment is not merely degrading to a highly-educated class of professional men, but it is likely to be attended with serious damage to the public interests. Medical men are now most unwilling to enter the navy as assistant-surgeons; and many of those who had joined the service under the idea that it was better than it had been represented, have resigned, and left it in disgust. It would give us satisfaction to hear that there was a general resignation throughout the fleet, and that no medical man would accept the office until, with the rank, he had also, according to the meaning of the Order in Council, the full privileges of a Naval Assistant-Surgeon.

NON-RESTRAINT SYSTEM IN INSANITY.

Whatever has been or may be attempted to be palmed upon the public about non-restraint, as it is called, in the cure of the insane, and without feeling it necessary to dwell here upon the falsehood and dishonesty of such expressions, we simply remark that, as an agent judiciously used, it is actually indispensable for the cure of the insane; though, after all, it is only one of many remedies, whether therapeutic or hygienic, physical or moral, that must be employed, if we hope for eventual success. And the proof of this assertion is shown in the fact, that no more advance has been made in the real cure of the malady since the removal of those abominable abuses connected with restraint, which alike reflected disgrace upon the government as upon the nation, than took place previously to those disclosures.—*Dr. Burnett.*

THE

LUMLEIAN LECTURES FOR 1849.

Delivered at the Royal College of Physicians, London,

By R. B. Todd, M.D. F.R.S.

ON THE PATHOLOGY AND TREATMENT OF CONVULSIVE DISEASES.

Lecture III.

Theory of Epilepsy.—*Phenomena essential to epilepsy—Epileptiform convulsions dependent on superficial disease of the brain—Case—Points to be explained by an adequate theory of epilepsy—Epilepsy not due to primary irritation of the spinal cord—What part or parts of the brain affected in epilepsy. Not the Medulla oblongata, nor the Corpora Striata and Optic Thalami—Affection of the hemispheric lobes explains the loss of consciousness—Can superficial irritation of these parts of the brain cause convulsions? Periodical action of the brain—Sleep—Dr. M. Hall's theory of sleep—Objections to it—The mesocephale affected in epilepsy—Experiments by the magneto-electric machine on different parts of the cerebro-spinal centre—Clonic convulsions caused by irritation of the meso-cephale—Conclusion as to the parts of the brain concerned in the production of epilepsy—Inquiry into the nature of the cerebral disturbance in epilepsy—Is it inflammation? Congestion? Anæmia? Theory of the disease—Humoral view—Treatment by drugs—by discipline and regimen—Use of chloroform in epilepsy.*

Mr. President and Gentlemen,—To frame an adequate theory of the pathology of epilepsy, is, I feel, a task of no ordinary difficulty. Although much has been done of late years towards forming exact views of the functions of the several parts of the great cerebro-spinal axis, we are still very uncertain as to the precise influence which each part has on the others,—as well above as below it,—and how far a disturbance of any one may involve the rest in a like disturbance. While such obscurity exists respecting the office of important parts of the nervous system, it is impossible not to approach the subject of the pathology of epilepsy without a feeling of hesitation and mistrust.

The leading and pathognomonic features of true epilepsy are these:—loss of consciousness and sensibility, most frequently accompanied by convulsions of the kind which I have described as epileptic, *i. e.* of movements which consist of alternate relaxations and contractions of muscles rapidly succeeding each other; these paroxysms occurring at intervals of variable length, with something of periodicity, the patient during the interval recovering himself completely. These phenomena are most frequently ushered in without any warning whatever, so that the patient is suddenly, and on the instant, seized, rendered senseless, more or less violently convulsed, and then awakes more or less suddenly. In many instances all this is done in scarcely as much time as it takes to describe the phenomena; at other times the fit is of much longer duration.

Now it must be carefully kept in view that the complete epileptic paroxysm is compounded of many phenomena, of which the primary and constant ones are the loss of consciousness, and the disturbances of sensibility which usher in the fit, or remain after it. We never meet with instances of epileptic convulsions affecting the whole system, and recurring periodically, which are not ushered in with loss of consciousness, or accompanied by it. We do, however, frequently meet with instances of the sudden loss of consciousness, lasting for a longer or shorter time, without any muscular disturbance; and this loss of consciousnees is accompanied by a peculiar vacant look,—an aspect entirely devoid of all indication of intelligence,—expressive, indeed, only of the temporary abeyance of the intellectual power, and attended with a dilated condition of the pupils; —a feature of the epileptic state quite as constant, perhaps, as the loss of sensibility and consciousness, and which is very apt to remain, although in a less degree, after the fit, and throughout the entire period intervening between the fits.

There are, however, certain epileptiform disturbances of motion not accompanied by loss of sensibility, which it may be as well that I should notice here, partly to draw the line of distinction between them and the true epileptic convulsions, and partly because a right appreciation of the nature and character of these pseudo-epileptic movements will assist me in the course of this discussion. These movements occur in paroxysms: they consist of alternate rapid contractions and relaxations, with, however, a great tendency to muscular cramp or rigidity. If, for instance, the arm is affected, the movements will consist of rapid flexions, alternating with extensions, but in the intervals the muscles will feel firm, and more or less rigid. Sometimes, however, the reverse takes place, and a state of paralysis ensues upon a violent convulsive paroxysm. In such cases the convulsion is never general,—always partial, and confined to one side, one arm or one leg, or both, with the side of the face. In many instances the movements are no more than twitchings, and in all, the experienced eye would readily detect the difference between their half tonic, half clonic nature, and the forcible plunging truly clonic character of the proper epileptic convulsion.

Such movements as these accompany superficial irritation of the hemispheres of the brain or of the cerebellum. I have seen them most frequently in children, associated with the so-called tubercular meningitis; or, more properly, meningitis and encephalitis, excited by the presence of tubercles in the pia mater.

A case of this kind came under my observation some years ago, which afforded a striking instance of these pseudo-epileptic movements, as I would call them. As the case has been made public by Mr. Dunn, the surgeon under whose care the child was, and who kindly afforded me the opportunity of seeing him, I shall refer to his clear and able account of it published in the Medico-Chirurgical Transactions for details, and content myself with mentioning those points which are most applicable to my present purpose.

The boy was two years old, and of strumous habit. He had for some time been failing in health, and shown excessive perverseness of temper. On the 7th of October he awoke, as he was accustomed, between six and seven o'clock in the morning, and while amusing himself with his sister in bed, and attempting to turn over, his left hand suddenly began to take on a jerking or convulsive twitch, which did not extend beyond the wrist. Mr. Dunn saw the patient immediately, and found that these convulsive jerkings formed the only symptom exhibited by the child. He was laughing and talking, quite sensible, and in every other respect seemed perfectly well. These jerkings continued for about twenty minutes, when they subsided, and the child was free from them the whole day. The next morning, the 8th, at nine o'clock, the convulsive movements returned, and continued for half an hour. The day after this the jerkings returned again at seven o'clock in the morning, but were much slighter than before. On the 11th, the convulsive movements returned again, and were not confined to the upper extremity, but involved the leg as well, the face also, and the angle of the mouth. On the 12th and 13th, the child had two fits in the day, affecting the whole of the left side: he cried and screamed towards the termination of the fits, but he was sensible throughout them. Each fit was followed by profound sleep.

Early in the morning, the 14th, Mr. Dunn was called up in consequence of a very severe paroxysm, which lasted three hours: the convulsive movements, affecting the left side from head to foot, were very severe: at times he screamed, at others he was quiet, and *throughout knew all about him*.

Under the increased frequency and severity of these attacks, and an extension of them, though in a slight degree, to the right side, with other symptoms of irritation of the brain, the patient died, and, on examination, it was ascertained that there existed an extensive deposit of tubercular matter on the surface of the right hemisphere of the brain, the opposite to the side on which the convulsions took place, and that a slight and recent deposit had taken place on the surface of the left hemisphere, and that the cerebral substance around the tubercles was in a state of red softening, interspered with inflammatory products, in considerable quantity. The tubercular deposits exciting inflammation of that portion of the brain which was in their immediate vicinity, no doubt gave rise to the convulsive movements on the left side, as well as to those which had begun to show themselves on the right side of the body.

I would lay it down, then, that epileptiform convulsions without loss of consciousness are essentially distinct from true epilepsy, and may be developed by even a slight morbid irritation of the brain.

You will see that what we have got to explain by any theory of the pathology of epilepsy, is—

1st. The sudden occurrence of complete loss of consciousness.

2nd. The sudden privation of voluntary and locomotive power, with more or less violent epileptiform convulsions.

3rd. And all this occurring *at certain periods*, with more or less uniform and regular intervals, during which the patient may, and frequently does, return to a condition perfectly normal.

Lastly, our theory must explain why it is that these fits are so often accompanied with a maniacal state, and how it happens that their frequent repetition tends to destroy the power of the brain as the organ of the mind; and, moreover, greatly to impair the whole nervous force.

It seems needless to occupy time with discussing whether, during these formidable paroxysms of epilepsy, or, as it used to be called, of "falling sickness," the muscles or the nerves are primarily affected. All the obvious phenomena point to the nervous system as being chiefly engaged, and to the muscular convulsion as entirely consecutive to, and dependent on, the disturbed state of the nervous system. I would remark, however, that the enormous development of muscular force which must be produced during the convulsive paroxysm, must, in conformity with the discoveries of Matteucci, alluded to in my last lecture, have a most powerful reaction upon the nervous system.

The first point, then, which should occupy our attention must be as to the part of the nervous centres which is mainly disturbed in this disease—whether the spinal cord or the encephalon; and, if the latter, whether the whole or part of it: for it cannot be admitted that the disease is one of the nerves only: the nerves, indeed, may convey irritation to the centre, and again reflect that irritation to the muscles; but it would be impossible for such an amount of irritation as would create the paroxysm of epilepsy to exist without giving rise to great disturbance of the centres.

I think it cannot admit of doubt that in epilepsy the spinal cord is by no means primarily affected. That it is to a certain extent disturbed during the complete paroxysm which is accompanied by muscular convulsions, is evident; for otherwise the exciting cause of the convulsions could not reach the muscles of the limbs: but then this disturbance is secondary.

The nature of the convulsions shows that the spinal cord is not primarily affected. In my former lectures I have shown that the character of the convulsion dependent on primary irritation of the spinal cord is *tetanic*, with more or less permanent rigidity of the muscles and opisthotonos; and this can be clearly demonstrated by experiment. But although the convulsions of epilepsy are often complicated with a good deal of tetanic spasm, they nevertheless always present features which distinguish them, in a very marked way, from the tetanic convulsions, by the alternate contraction and relaxation,—violent combined movements, resembling voluntary acts, succeeded by relaxations, to be again succeeded by violent contractions.

Furthermore, if the spinal cord were affected primarily, we could not explain the sequence of the phenomena in the complete paroxysm of epilepsy.

If the spinal cord were primarily disturbed in epilepsy, the sequence of the phenomena would be—first, muscular disturbance, in consequence of the state of disturbance of the cord; then impairment of consciousness, in consequence of the extension of the disturbed state of the cord to the brain.

Now the natural sequence of the phenomena is—first, loss of consciousness; secondly, muscular convulsions.

Moreover, the supposition of the primary existence of disturbance of the spinal cord leaves us altogether without the means of explaining the phenomena of that form of epilepsy which in its consequences to the patient is quite as formidable as that accompanied by convulsions. I mean that form which consists simply in loss of consciousness, which lasts for a variable term, and then the patient recovers himself.

Lesions of the spinal cord, it is now well known, do not affect consciousness. You may have nearly the entire cord severed from the brain, and yet consciousness will be retained. A man falls from a height, and fractures his cervical vertebræ, smashing a considerable portion of the cervical region of the spinal cord: he is taken up paralysed, in both sensation and motion, at all points below the head, but *consciousness is undisturbed.*

In the convulsive diseases confessedly spinal in their origin,—namely, in tetanus and laryngismus,—consciousness is undisturbed, or but slightly affected, however violent the convulsions may be.

It seems, therefore, certain, not only that a highly disturbed state of the spinal cord will not impair consciousness, but also that that state of disturbance of the cord is not prone to extend itself to the brain, and to interrupt the functions of that organ.

And these arguments applied to the ordinary spinal cord of anatomists—the intra-spinal nervous mass—are equally opposed to the location of the disease in the true spinal cord of Marshall Hall, or in the sensorium commune of Prochaska. The sensorium commune of Prochaska is the spinal cord *plus* its intra-cranial continuation as high up as the crura cerebri. But primary irritation of this latter part produces the same phenomena as that of the spinal cord, with the addition of more or less laryngismus: therefore it is not the part first affected in the epileptic fit.

It is plain, then, that the primary disturbance in the epileptic paroxysm must be located in some part of the brain.

Now this organ is divisible into certain parts, each of which, there can be no doubt, enjoys a separate proper function, notwithstanding that all the parts are intimately united to each other.

These parts are—

First. The hemispheric lobes, consisting of the convolutions and the large mass of fibrous matter connected with them.

Second. The corpora striata and the optic thalami, in intimate connection with

Third. The medulla oblongata.

Fourth. The corpora quadrigemina, in intimate connection with, and part and parcel of the mesocephale.

Fifth. The cerebellum.

Pursuing the method of exclusion, I hope to arrive at the determination of the part the disturbance of which gives rise to the phenomena of epilepsy, and of the epileptic paroxysm.

I shall first eliminate the medulla oblongata. An affection of this part, such as could provoke convulsions, would give rise to *tetanic*, not to *clonic*, convulsions; and, in some cases, it would act so powerfully and so directly upon the muscles of respiration, that it would probably in many instances annihilate that process altogether. It is true, indeed, that a certain extent of laryngismus often complicates the epileptic convulsion; but primary disturbance of the medulla oblongata would render laryngismus a constant and necessary accompaniment of the epileptic fit, *which is not the case.*

Primary affection of the medulla oblongata does not explain the early and constant loss of consciousness which is pathognomonic of epilepsy, and which is often its *only* symptom.

Diseased states of the medulla oblongata show themselves in impaired deglutition, in vomiting, in altered rhythm of the respiratory movements, in an abnormal proneness to emotional excitement, but not in impaired intellectual action, nor in any affection of consciousness.

We cannot admit, then, that epilepsy is due to a primary disturbance of the medulla oblongata.

We come next to the Corpora Striata and Optic Thalami. These remarkable ganglia, although intimately connected with each other, are nevertheless very different in structure, and probably, also, very different in function. They are no doubt directly concerned in the development of voluntary motions and of sensation, and their intimate anatomical union is in harmony with the close connexion and interdependence of sensation and motion. They have nothing to do with intellectual operations, and therefore not with consciousness; their functions seem limited to the simple exercise of the will, or to that of the perception of some impression made on a sentient organ. If the corpus striatum or optic thalamus be diseased, you have paralysis of motion or of sensation, or both; but a sound state of intellectual power, and of the consciousness, is quite compatible with extensive disease of both of these organs, provided it does not extend beyond them. Mechanical irritation of these bodies does not produce convulsions, nor does any morbid state of them ever give rise to these disturbances of motion. It is clear, then, that these bodies can no more claim to be the seat of the primary disturbance in epilepsy, than the medulla oblongata.

Has the cerebellum any share in the production of epilepsy? I think we must answer this question in the negative likewise. The cerebellum has no influence on consciousness: the absence of the cerebellum is perfectly compatible with consciousness and a certain amount of intellectual power, and these powers remain intact even where there is considerable disease of that organ. Moreover, mechanical irritations of the cerebellum do not give rise to convulsions.

There remain, then, only two parts of the brain in which we can localize the primary disturbance in the epileptic paroxysms—namely, the hemispheric lobes, and the mesocephale.

I will at once confess that my reflections upon this subject have led me to the conclusion that both these parts of the brain are greatly concerned in the production of the epileptic state, and in the development of the paroxysms. First and mainly, the hemispheric lobes; secondly and consecutively, the mesocephale.

You will bear in recollection that the complete epileptic paroxysm exhibits two features essentially distinct from each other: first, the loss of consciousness; secondly, the convulsions. The loss of consciousness and the other mental phenomena are dependent upon a disturbed state of the hemispheric lobes; the convulsions upon a disturbance of the mesocephale, consecutive to, and derived from, the disturbance of the hemispheric lobes.

There is no point in physiology more clearly made out than that the organ which is immediately active in the manifestation of intellectual operations is the convoluted surface of the brain, and the fibrous mass connected with it—the hemispheric lobes. Every fact in comparative anatomy points to this conclusion. Experiment confirms it likewise. When the hemispheric lobes are removed from a pigeon, as in Flourens' celebrated experiment, which I have more than once repeated, the animal became a mere living machine, capable only of manifesting the physical phenomena of life, exhibiting no indication of mental operation nor of consciousness: it fell into the deep unconsciousness of epilepsy.

In all instances where the nutrition of the cerebral hemispheres is disturbed, the intellect suffers: you have delirium or a maniacal state; or if the disease be of a kind tending to check nutrient change, or to destroy it, you have more or less sopor.

So, also, inflammatory states o the arachnoid and pia mater covering the convolutions of the brain, disturb the intellectual operations, because they are so intimately connected with the hemispheric lobes, being as it were the carriers of nutrition to them, that the nutrition of these membranes cannot be disturbed without perverting that of the convolutions themselves.

Although it is perfectly true, that the brains of persons dead of epilepsy in its earlier periods will exhibit, as Foville remarks, "nothing, absolutely nothing, which differs from the normal state," unless they have died in the attack, when the cerebral congestion which exists is, in the words of the same distinguished physician, "a feature, not of epilepsy, but of the state of asphyxia induced by it, and in which the patients have died;" still, in the more advanced stages of the disease, when the patients have experienced many fits, morbid appearances are met with, and these affect the hemispheres of the brain chiefly. You have among the most common, opacities and thickening of the membranes, shrinking of the convolutions, enlargement of the sulci between them, increased subarachnoid fluid, alterations of colour and consistence of the grey and white matter of the hemispheric lobes. These alterations must be looked upon as the accumulated effects produced by the various paroxysms. Each fit does some amount of damage to the brain: in the interval the brain recovers itself to a great degree, when a new fit comes on, and new mischief is done; and so the repetition of the paroxysms leaves the brain altered as I have described it.

But, observe, the alterations are not of the cerebellum, nor of the medulla oblongata, nor of the corpora striata or optic thalami, —but of the hemispheric lobes.

Bouchet and Cazaurielh, who have conducted an extensive series of researches into the clinical history of epilepsy, found these alterations of the hemispheric lobes so frequent in the chronic cases, that they attribute the disease to a chronic inflammation of the cerebral lobes, which determines epilepsy if it affect the white substance, insanity if it affect the grey.

I refer to these researches, not because I believe that the conclusion founded on them by their authors is correct, but because they strikingly indicate that the seat of the organic disturbance (which these authors admit to be *caused by* the fits) is in the hemispheric lobes.

It cannot, I think, under the weight of argument which may be adduced in reference to the office of the hemispheric lobes, be doubted that an affection of these parts is capable of inducing all the phenomena of epilepsy, as far as regards consciousness and sensibility.

But an important question remains: can a disturbed state of the hemispheric lobes induce or excite convulsive movements? The proper answer to this question appears to me to be this: under ordinary stimulation of the substance of the hemispheres, the fibres are incapable of exciting motion. It is not the office of these fibres to propagate the nervous force to muscles, but to other nervous centres. Their function is to establish communications between the great sheet of vesicular or grey matter which covers the convolutions of the brain, and the corpora striata, optic thalami, and mesocephale, so that changes in any of these centres may be propagated from any one to any other, or to all the rest. Hence the sections and irritations by mechanical and galvanic means to which these fibres have been subjected in the hands of various experimentalists, produce no disturbance of motion, so long as the irritation is strictly confined to them.

So far, then, anatomy and experiment denote to us that of themselves these fibres of the hemispheric lobes cannot excite motion, but that they may do so through their influence upon other ganglia of the brain; and such phenomena, as I referred to at the commencement of the lecture, as a convulsive affection of the whole of one side of the body, evidently brought on by the deposition of tubercular matter on the surface of the cerebral hemisphere on the opposite side, and its consequent irritation, show that convulsive movements may be excited by a superficial lesion of the hemispheric lobes.

Hence we must not deny to these lobes a certain power of exciting motion, either directly or indirectly, through their influence upon other ganglia of the brain. But it is important to remark that the influence of the hemispheres is most manifest for this purpose when the lesion is superficial; that is, when it affects the grey matter. A deposition of tubercle, such as took place in the case I described at the commencement of the lecture, would produce little or no disturbance if it took place in the white substance: it would interrupt the functions of some of the fibres; but when deposited in the vesicular matter, among the particles of the generating plate of the nervous battery, the development of the nervous force becomes seriously impaired.

From all these facts, then, I infer that a disturbed state of the hemispheric lobes may undoubtedly give rise to so much of the phenomena of the epileptic paroxysm as refers to the affection of consciousness and sensibility, and that it may, *in some degree* at least, contribute to the development of the convulsions.

We must not forget that, in forming a theory of the pathology of epilepsy, we have to explain not a continuous state of disturbed sensation and motion, but a malady, the grand feature of which is the *periodical* recurrence of the paroxysms, the patient being wholly or almost restored to his normal state in the intervals between the attacks.

Now, it is not a little remarkable that there is no organ in the body which exhibits the same kind of periodical activity and quiescence in the performance of its functions, *as the hemispheric lobes*. This periodicity is manifest in the phenomena of sleep: throughout life the tendency exists, that for a certain period each day the state of sleep comes on—when intellectual acts cease, the will is not exerted, the perceptive powers remain quiescent, the channels of sensation are closed. This tendency is greatest in the early periods of life than at any other time—greatest of all in infancy, when sleep engrosses the largest portion of time: very marked in childhood, less imperious in adult life, but assuming a somewhat increased influence in second childhood—OLD AGE.

It is unnecessary for me to take up time in adducing arguments in support of the assertion, that the phenomenon of sleep belongs to the brain, and especially to the hemispheric lobes. I must content myself with the statement, that the periodical recurrence of sleep is a part of the train of phenomena which belong to the normal nutrition of the brain. The diurnal variations of our planetary system are not more surely influenced by the laws which regulate them, than is the brain by that law of its nutrition which enforces that the activity of that part of it which is immediately associated with the operations of the mind should be from time to time interrupted by sleep.

In hybernating animals, we have a remarkable example of the extraordinary influence of this law of the nutrition of the brain, and of the curious mastery which it exercises over all the other processes of life. When the winter sleep sets in, the breathing becomes slow, the circulation is languid, the body feeds upon the store of fat which had been laid up during a period of exertion, the chemical changes of the body are reduced in activity and complexity. It lasts a certain time, and the animal becomes gradually roused, and resumes its wonted place among the active denizens of the world.

We have, indeed, in the animal economy, phenomena in some degree analogous to this alternate activity and quiescence of the brain. The heart beats with a certain rhythm, and pauses after it has accomplished its systole and diastole.

Respiration exhibits a similar rhythm in its movements.

So, also, perhaps, the peristaltic action of the bowels.

Something like a physical explanation of these phenomena may be offered, but we know no physical cause for sleep; and, in the existing state of knowledge, we must rest content with regarding it as an ultimate fact, that it is to the peculiar economy of the brain, and to the laws which specially regulate its nutrition, that we owe the unspeakable advantage and enjoyment of

> "Tired Nature's sweet restorer, balmy sleep."

When these laws are impaired, there is either too much sleep, or it is almost banished from the eyes, and nature at length sinks exhausted.

Dr. M. Hall, indeed, thinks that he can derive some physical explanation of the phenomena of sleep from the antagonism which he assumes to exist between what he calls the spinal system and the cerebral system. "As sleep approaches (he says) the levator palpebræ, a muscle of voluntary motion, ceases to act; whilst the orbicularis, a muscle of true spinal action, contracts and closes the eyelids."

"Imagine," he adds, "an event similar in its nature to take place in the muscles of the neck: volition ceasing, spinal action being energetic, certain muscles contract and compress the veins, and a degree of fulness of the neck and face, with turgidity of the eyes, is the obvious result; nay, there is even a degree of laryngismus heard in the respiration. All this is most observed in the first deep sleep."

Now, to pass over certain very decided sources of fallacy in this view, such as the assumed energetic condition of spinal action, the contraction of the orbicularis and other muscles, the distinction between a muscle of true spinal action and of cerebral action, it is plain that it involves a *petitio principii*, and this is expressed in the first three words of the passage I have quoted—"as sleep approaches;" and in two words of the succeeding paragraph — "volition ceasing." The whole question is involved in these two phenomena—the approach of sleep, the abeyance of volition: if we can determine what influences the approach of sleep, to what its first beginnings are due, what determines the abeyance of volition, we need inquire no further. According to Dr. Hall's views, the increased energy of the spinal system, to which is due the contraction of the orbicularis and of certain muscles of the neck, is the immediate consequence of the first approaches of sleep, of the beginning of the state of quiescence of the cerebral system. In short, the state of sleep has already begun ere the exciting cause of this contraction of the muscles of the neck is brought into operation.

But to return to the question which we have in hand.

I say, then, that the periodical character of the phenomena of the normal nutrition of the hemispheric lobes of the brain denotes strikingly that these organs have much to do with the primary disturbances which cause those periodical paroxysms which constitute epilepsy.

But there is another part of the brain to which I think we must assign some share in the production of epilepsy.

This is that part of which the corpora quadrigemina form a prominent portion—the upper and posterior part of the mesocephale, the nodus encephali, the connecting medium between the several parts of the encephalon, which is not only anatomically related to all the constitutional parts of that organ, but possesses inherent powers of its own of great and general influence upon the movements of the body.

I have already referred to this part in my last lecture, as being the centre of emotion: as such, it is much influenced by mental states; and we know that epilepsy is often brought on by the shock produced by seeing another fall into a fit.

Flourens states, that while superficial sections of the corpora quadrigemina produce no other effect than the impairment or loss of vision, deep sections produce general convulsions.

I have been desirous of ascertaining whether the parts within the cranium, if excited by the stimulus of galvanism, would give rise to any phenomena similar or analogous to those produced by galvanic stimulation of the spinal cord. Accordingly, I determined to subject them severally to the action of the magneto-electric rotation machine,—a most convenient instrument for physiological experiments.

The experiments were performed on rabbits. I took the spinal cord first: here we had the well-known tetanic effects to which I have already frequently referred.

Next I tried the medulla oblongata: the effects of the stimulation of this organ were much the same as those produced by irritating the cord.

I then tried the corpora quadrigemina and the mesocephale. Having pas ed fine bradawls into the cranium in such a direction as I had previously satisfied myself would lead to this organ, I subjected it to the influence of the machine: general convulsions were produced, of a character essentially different from those which resulted from stimulating the spinal cord or the medulla oblongata. They were combined movements of alternate contraction and relaxation, flexion and extension, affecting the muscles of all the limbs, of the trunk, and of the eyes, which rolled about just as in epilepsy.

On inserting the awls into the hemispheric lobes, still different effects were produced by the application of the machine. I could observe nothing like true convulsions; but slight convulsive twitchings of the muscles of the face took place, which were no more than what would be caused by the stimulus of galvanism acting upon the nerves of the face.

These experiments, which I repeated several times, and each time with like results, seem to denote that convulsions are modified according to the part of the cerebro-spinal axis which is primarily excited: if it be the spinal cord, they are tetanic; if the medulla oblongata, they are tetanic likewise, other parts being involved; if the corpora quadrigemina and the mesocephale, they are epileptic; if the cerebral hemispheres, you scarcely have any convulsions, but slight twitchings of the muscles.

Weber, in his excellent essay on Muscular Motion, published in Wagner's "Handworterbuch" of Physiology, refers briefly to similar experiments performed by himself on the brain of a frog, and leading to the same results; and he draws this conclusion, that "the tonic convulsions, as trismus and tetanus, are the effect of disturbance of the functions of the spinal cord; whilst the clonic convulsions are due to derangements of the functions of certain parts of the brain."

Thus, then, I come to this conclusion respecting the parts of the nervous system which are directly concerned in the production of the epileptic paroxysm.

The part of the encephalon primarily disturbed, is the hemispheric lobes: if the disturbance do not go beyond a certain point, the phenomena are limited to loss of consciousness and impaired intellectual action, with more or less of sopor. But if the disturbance be considerable, then the tubercula quadrigemina and mesocephale become involved, and *epileptic convulsions* are produced. If the disturbance of this centre be very great, the medulla oblongata and the medulla spinalis become much excited, and the convulsions are complicated with a good deal of the tetanic character.

We know that there is great variety in the intensity of the epileptic paroxysm, *i. e.* not only in the intensity and duration of the coma, but also in the violence of the muscular paroxysm: all this depends on the nature and force of the primary disturbance in the cerebral hemisphere, but in all instances the hemispheric lobes are first disturbed, next follow the corpora quadrigemina, and upon the intensity of their disturbance depends the extent to which the medulla oblongata and the spinal cord are engaged.

CALOMEL AS A LOCAL APPLICATION IN CHANCRE.

This is a favourite treatment in the American hospitals in all obstinate chancres, and buboes which will not heal after being opened. The powder is sprinkled freely over the surface, which is then dressed with lint wet with dilute solution of chloride of soda. The most striking result have been obtained from its use, where the black wash had entirely failed.—*American Journal of Medical Sciences*, January 1849.

Reviews.

The Closing Years of Dean Swift's Life, &c. By W. R. Wilde, M.R.I.A. F.R.C.S. &c. 8vo. pp. 164, with Illustrations. Dublin: Hodges and Smith. 1849.

A part of this essay has already appeared in the Dublin Quarterly Journal of Medical Science. In its republication Mr. Wilde has made numerous additions, interesting to medical antiquaries as well as to those who are desirous of having an authentic account of the last years of one of the most extraordinary literary characters of the 17th and 18th centuries. A main point with the writer, who has brought considerable research to the subject, has been to rescue the character of Swift from the many false aspersions which have been cast upon it by biographers who have taken as their authorities newspapers and magazines. In this he has certainly succeeded; and the descendants of Swift owe him a debt of gratitude for the analysis and exposure of the evidence upon which many of these unfounded imputations rest.

There is a general notion that for the greater part of his life Dean Swift was insane, and his alleged insanity has been attributed to indulgence in dissipated and immoral habits. There is no doubt that in his declining years his mind failed to an extent to render it necessary that guardians of his property should be appointed by law; but the whole of the facts collected by Mr. Wilde lead to the irresistible conclusion that this failure of mental power was partly owing to physical disease, and partly to that natural decay in the mental faculties which is so frequently observed in persons of advanced age.* The peevishness of his temper was sufficiently accounted for by the loss of sight and hearing, and the acts relied upon as indicative of insanity (1734) have no weight as evidence; because his writings and correspondence at this period exhibit an unimpaired state of mind. At a still later period, he forgot the names of his friends, and found himself at a loss for words in giving vent to his thoughts; but we are informed that he was able to give a dinner party at the age of 73. But little is known of his condition for the last three years of his life, except that he lost his memory, and suffered from paralysis. It is probable that the symptoms were those of senile dementia, aggravated by great bodily infirmity.

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* The Dean died on the 19th October, 1745, in the 78th year of his age.

It is well known that the Dean's remains were exhumed in the year 1835. The coffin was surrounded by wet clay, and nearly filled with water. It is not often that we have the means of recording the appearances of bodies *ninety* years after death, and the following account, drawn up by Dr. Hunston, who assisted at the exhumation, is therefore of some interest:—

> "All the bones of the skeleton lay in the position into which they had fallen when deprived of the flesh that enveloped and held them together. The skull, with the calvarium* (calvaria?) by its side, lay at the top of the coffin, the bones of the neck lay next, and mixed with them were found the cartilages of the larynx,† which by age had been converted into bone. All the rings of the trachea which had undergone the same change, were equally in a state of preservation and order. The dorsal vertebræ and ribs occupied the middle of the coffin; the bones of the arms and hands lay as they had been placed in death, along the sides; and the pelvis and lower extremities were found towards the bottom. The teeth were nearly all gone, and their sockets filled up with bone. Six of the middle dorsal vertebræ, and three of the lumbar, were joined together by anchylosis. Several of the ribs were united to the sternum by ossification of the intermediate cartilages. The whole were evidently the remains of a very aged man. The bones were all clean, and in a singularly perfect state of preservation. When first removed, they were nearly black; but, on being dried, they assumed a brownish colour. The water in which they were immersed (the coffin was nearly filled with water) was remarkably free from putrefaction; even the wood of the coffin was perfectly sound and unbroken."‡ (p. 55-6.)

The phrenologists of the British Association happened to be in Dublin about this time. The skull of Swift made the round of the learned and fashionable societies of that city, and was handed about in mansions where, during life, the owner was often the honoured and much-sought guest! Swift's cranium, it appears, became a stumbling-block to the phrenologists. Mr. Wilde tells us that one of the great prophets of this ricketty science "pronounced it to be a very common-place head indeed—nay, from the low frontal development, almost that of a fool; and in the measurement of the cranium, given in the Phrenological Journal, we find—amativeness large and *wit small!* with similar contradictions to the well-known character of this great genius" —p. 74. A shabby attempt was then made to get over this difficulty, by alleging that the skull was that of Swift the fool,—not of Swift the caustic writer and the patriot. It was contended that his skull had collapsed, and we suppose his wit must have evaporated, and his amativeness (at the age of seventy-eight) have considerably expanded! The fact should be fairly admitted: in the case of Swift, as in many other remarkable instances, where certain mental powers are developed to an extraordinary degree, the phrenological hypothesis does not account for their existence. Where, however, there is no striking prominence of character, exoteric mortals are no longer judges, and the phrenologists, of course, have it all their own way. We do not believe in this collapse and expansion of isolated portions of the skull,—the suggestion is so preposterous that it would not be made except by one desperately bent on supporting a favourite doctrine at all hazard. The truth is, some of the more intelligent phrenologists are beginning to perceive that the *quality* of the cerebral mass has something to do with mental power as well as the *quantity*. Phrenology can take note only of the latter element. No callipers can measure the former. Mr. Smee, in his recent electro-biological researches, has discovered that the brain is a great central galvanic battery; and that, if properly insulated, you cannot exercise thought or motion without affecting the galvanometer! We do not say that his theory is correct; but this we contend for—it is as absurd physiologically to pronounce on the relative development and power of the moral and intellectual faculties from the size of the cerebral mass, as it would be to judge of the power of a battery from its size, irrespective of the elements of which it is composed. This will perhaps explain the difficulty suggested by the author of the essay—namely, that "the circumstance of Dean Swift's head exhibiting small intellectual and large animal propensities has not yet been accounted for by the votaries of phrenology." (p.77.)

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* There is no such word as calvarium. All good lexicographers, including Strauss, Dunglison, and Hooper, give it calvaria (from *calvus*, bald). The head of the deceased had been opened before interment.

† The larynx was subsequently stolen by some Irish *gentleman*, and carried off to that country of repudiation, the United States.

‡ Whence came this water? Not from the decomposition of the body, but from infiltration through the pores of the wood from the soil of wet clay. We have in several instances of exhumation known that coffins removed sound from damp graves, have been filled with water. The coffin has been actually tapped to allow the water to flow off and lessen the weight for removal.

Mr. Wilde furnishes us with many interesting facts connected with the private life of Swift, and the relations which existed between him and Stella and Vanessa. The documents published by the author have removed much of the mystery which hung over this part of Swift's career, and they confute many of the statements which have been made against his character.

Swift's charitable disposition was strongly shown in the munificent devise of £12000 for the foundation of St. Patrick's Hospital, for the reception of lunatics and idiots. This institution was opened in September 1757, for the reception of fifty patients. It now accommodates one hundred and fifty, seventy-five males and seventy-five females, besides thirty officers and servants. Lord Brougham, Mr. William Howitt, and sundry other writers, who have attacked the charitable founder upon grounds which Mr. Wilde has proved to be unsatisfactory, if not untrue, have it in their power to make some compensation for these unjust attacks upon the memory of the dead, by subscribing liberally to this charity. It would, in our judgment, be the most handsome way of showing their regret for the violation of the rule "De mortuis nil nisi bonum."

Although not strictly medical in its character, the medical archæologist will find much in the pages of this essay which will repay him for the perusal. Its popularity is proved by the fact, that it has already reached a second edition.

The Journal of Psychological Medicine and Mental Pathology. Edited by **Forbes Winslow**, M.D. No. VI. April, 1849.

Although we do not often insert notices of contemporary journals in our review department, we nevertheless feel it incumbent on ourselves to depart occasionally from this rule. Dr. Winslow deserves great credit for the ability and perseverance which he has displayed in editing the Journal of Psychological Medicine; and we trust, from its regular appearance, that he is receiving that support which his scientific labours deserve. There is n one of the numbers yet published, which does not contain papers of great value in reference to mental pathology; and the articles on the medical jurisprudence of insanity are particularly deserving of perusal. We have reason to know that this journal is now consulted by lawyers on the subject of homicidal insanity; and medical practitioners, who venture to give evidence on trials for murder, must be prepared for a close investigation into their acquaintance with modern medical doctrines. Although the journal is devoted specially to the subject of insanity, it is really deserving of the support of all medical men who take an interest in the progress of medical science.

The Medical Remembrancer; or, Book of Emergencies, &c. By E. B. L. **Shaw**, M.R.C S., &c. Third edition, small 12mo. pp. 108.

The fact that this little book has reached a third edition, is a proof that it has been favourably received by the junior members of the profession, for whose guidance it is especially intended.

Mr. Shaw's Remembrancer comprises a description of the antidotes and remedial measures required in cases of poisoning; the method of treating accidents, and rules for the performance of the minor operations—such as bleeding, cupping, the employment of electricity, &c. A few suggestions on the mode of applying tests for detecting poisons are appended. The book contains much information in a small compass: it will be found useful to those who, when suddenly called upon to treat an accident, require a pocket remembrancer.

Proceedings of Societies.

WESTMINSTER MEDICAL SOCIETY.

Saturday, April 21, 1849.

MR. HIRD, PRESIDENT.

Position of the Viscera in Disease.

DR. SIBSON made a communication on the Position of the Viscera, the Configuration of the Body, and the Movements of Respiration in Chest Disease. These had been the subjects of his researches during the last twelve years, and his object was to bring them before the Society in a connected form. The three subjects, apparently separate, really and naturally combine to form a preliminary *method of examination* in ascertaining the presence and nature of chest disease. The communication was based upon, and illustrated by, a series of nearly forty diagrams, which had been taken from the dead and living body by Dr. Sibson, by means of a tracing-frame, suggested to him by Dr. Hodgkin. It is self-evident that the knowledge of the normal is essential to that of the abnormal. In the healthy man, the important organs are all so placed in relation to each other and to the parietes, that there is a common centre around which they all, as it were, cluster. That centre is the lower end of the sternum, and the recollection of it is at once easy and important. Just above the lower end of the sternum is the lower boundary of the heart, and the lower margin, coming to an angle of the right lung; just below the part indicated is the upper boundary of that portion of the liver which is immediately behind the parietes. A line drawn from the lower end of the sternum to the right, runs along the lower margin of the right lung; a line from the same point to the left indicates the lower boundary of the heart; the liver and stomach being immediately beneath those lines. The configuration of the chest, happily, indicates the size and outlines of the internal organs, so that they can be distinguished by the ocular inspection of the body, the bulk and size of the organs being made apparent by certain prominences, and their boundaries by certain depressions. The lower margin of the right lung and the lower boundary of the heart correspond to depressions passing across the six costal cartilages to the right and left of the lower end of the sternum. The costal cartilages immediately in front of the heart are more prominent than those over the middle lobe of the right lung. The ribs over the liver and stomach to each side are more prominent than those over the right and left lungs; the hepatic and gastric bulges are thus formed, the existence of which was first pointed out by Dr. Edwin Harrison. During inspiration, the position of all the viscera is changed, the diaphragm, in its descent, drawing downwards the base of each lung and the lower boundary of the heart, and pushing downwards the liver, spleen, stomach, and, indeed, all the abdominal and pelvic organs. At the same time, the costal area of the chest every where enlarges. During a tranquil inspiration, the superior ribs, which perform thoracic respiration, move forward from two to six-hundredths of an inch, while the abdomen advances about three-tenths of an inch, indicating diaphragmatic respiration; at the same time, the lower or floating ribs move outwards about one-tenth of an inch, their motion being greater than that of the superior ribs. Their action is to expand the lower part of each lung simultaneously with the descent of the diaphragm, and they are truly diaphragmatic ribs. During a deep inspiration, the descent of the diaphragm, and the advance of the whole of the front of the chest and abdomen, is about one inch; consequently, while the thoracic respiration is increased twentyfold, the diaphragmatic is only increased threefold. The base of each lung, and the lower boundary of the heart, are about an inch lower, when the diaphragm is at the lowest; at the end of a deep inspiration, the liver, stomach, and spleen are pushed down to a like extent. To observe the respiratory movements with greater nicety, the speaker devised the chest-measurer, an account of which is contained in the last volume of the *Medico-Chirurgical Transactions*. If the organs be in the position, and the chest be of the configuration indicated, and if the respiratory movements be symmetrical and normal in extent, we have the assurance, so satisfactory both to the medical man and the patient, that there is no organic disease of the heart and lungs. This important information can usually be gained with sufficient accuracy by means of ocular inspection and percussion, by the application of the hand during respiration, and, if needful, by the use of the chest-measurer. When the stomach and intestines are much swollen with flatus, they push up the diaphragm, and compress the lungs and heart upwards into the chest. The lower boundary of the heart and the lower margins of the lungs are unusually high, being, in cases of extreme distension, about an inch higher than usual. The form of the chest and abdomen is changed in proportion to the distension, the abdomen being full, rounded, and tense, while the chest is flattened in front, and widened sideways. In cases of the class referred to, a chain of morbid sensations in the chest is often referred by the patient to disease in the chest itself, though it is really due to the abdominal distension; dyspnœa and palpitation being both caused by the physical compression upwards of the heart and lungs: and in the train of symptoms, headache, dizziness, and even unconsciousness, is often occasioned by the difficulty with which the blood returns from the head to the right side of the heart. If the stomach and intestines be unusually empty, the diaphragm, instead of being raised, is lowered, and the lungs and heart, instead of being compressed upwards and shortened, are lowered at their base and lengthened. In bronchitis, and vesicular emphysema, the lungs and the heart, especially its right cavities, are enlarged. In extreme cases they are larger, and their lower boundaries are lower, than they are in health; during the deepest possible inspirations, these boundaries being in some cases from an inch to an inch and a half lower than they are in health. The whole diaphragm being lowered, the liver, stomach, and spleen, and indeed all the abdominal viscera, are correspondingly low in their position. The configuration of the chest is at the same time correspondingly changed. The enlarged condition of the lungs and heart is indicated by the marked and barrel-like roundness and fulness of the chest, especially at its upper part, for while that part is prominent, the lower end of the sternum and the upper part of the abdomen are unusually hollow. In the emphysema of boyhood, the sternum is most prominent, some little way above the lower end in that of manhood; the greatest projection is at the junction of the two bones of the sternum, while in that of old age the lower end of the sternum and the xyphoid cartilage are the projecting parts. The respiration of persons affected with emphysema is very characteristic; they are already, as it were, almost at the top of their breath, and they breathe with labour. The motion of the upper part of the chest is usually somewhat increased, but the lower end of the sternum, and the adjoining cartilages, instead of advancing, actually fall back. The same remarkable phenomenon is observed in cases requiring tracheotomy, when the obstruction to respiration in the larynx is extreme; in one case of that class, the whole of the walls of the chest fell backward, instead of advancing, during inspiration, at the same time that the abdominal motion was unusually marked. The cause of this falling back of the walls of the chest, during inspiration, is evident; the diaphragm, by its descent, lengthens the lung, and as air can only enter the air-cells with difficulty, the lung collapses, and the costal walls over them collapse also, being forced backwards by atmospheric pressure. In extreme laryngitis, as in emphysema, the lungs are lengthened, owing to the action of the diaphragm; but while the lungs are amplified in emphysema, they are narrowed in laryngitis, and the chest is consequently lengthened, flattened, and narrowed; at the same time, the heart, being denuded of lung in front, comes into extensive contact with the walls of the chest, and the heart's impulse is therefore felt extensively; whereas, in emphysema, it is only to be perceived behind and below the xyphoid cartilage. When much fluid is effused into one side of the chest (as has been observed and well described by several authors), the fluid necessarily compresses the lung on the affected side, and all the neighbouring organs are pressed aside from their usual position. If the effusion be on the left side, the heart is displaced to the right of the sternum, and the stomach, spleen, and liver, are displaced downwards and to the right; at the same time, the ribs are pushed outwards and separated farther from each other by the contained fluid; consequently, the whole of the affected side is enlarged. The respiratory movements are remarkably affected; while those of the whole of the healthy side are exaggerated, those of the affected side are either lessened, arrested, or reversed. When the effusion disappears, it is interesting to notice the progressive return of the viscera towards their normal position, as is now being instanced in a case which the speaker had seen with Dr. Hodgkin and Dr. Aldis. If, while the fluid disappears, the lung does not regain its power of expansion, but remains permanently condensed, the displaced organs will return beyond their former position, and in part occupy the place previously occupied by the condensed organ; consequently, the margin of the healthy lung and the heart will be drawn abnormally to the affected side, and the abdominal organs will rise unusually high into that side of the chest; at the same time, while the opposite side is enlarged, the affected side is narrowed and flattened. The respiratory movements are at the same time restrained or annihilated on the affected, while they are exaggerated on the healthy side. If the upper lobe be the seat of tuberculous cavities, while the lower lobe is comparatively healthy, the position of the viscera is not materially changed; but the ribs over the affected part are flattened, and their respiratory motion is diminished. If the lower lobe be the seat of pneumonia, while the other parts are healthy, the affected lobe is permanently enlarged; the thoracic organs are not materially displaced; the walls of the chest on the affected side are somewhat fuller than usual; and the respiratory movements of the ribs, especially the diaphragmatic or lower ribs, and of the abdomen on the affected side, are restrained, while those of the whole opposite side are exaggerated. Dr. Sibson concluded his communication by indicating the position of the viscera, the form of the chest, and the movements of respiration in pericarditis; enlarged heart, without pericardial adhesions, and enlarged heart with pericardial adhesions. He afterwards exhibited before the Society two men, one healthy, the other affected with tubercular disease of the whole left lung. In the former, the position of the viscera, the form of the chest, and the movements of respiration were symmetrical and normal. In the latter (he was kindly brought forward by Dr. Burslem), the inner margin of the right lung encroached on the affected side, being considerably to the left of the sternum; the whole of the left side was narrowed and flattened, while the right side was unusually developed; and the respiratory movements, both thoracic and abdominal, of the whole of the affected side, were almost annihilated, while those of the opposite side were, throughout, exaggerated. The respiratory movements in both of these cases were observed by means of the chest-measurer.

Saturday, April 28th, 1849.

Inflammation of the Prostate from injection of the Nitrate of Silver.

Mr. Henry Smith related the following case:—A man, aged twenty-eight, applied to him on the 4th ult., suffering from extreme pain about the bladder. He was constantly passing a few drops of water, accompanied with great pain afterwards. About three weeks since, he said he had a gonorrhœa, for which he took medicine, and afterwards used an injection of the nitrate of silver. This caused him intense pain, the urine became bloody, and the discharge stopped. About a week ago he first experienced these symptoms, which had gradually increased until the present time. Conceiving that the man had irritation or inflammation of the neck of the bladder, Mr. Smith ordered fomentations of hot water to the part, and gave him five grains of calomel, with half a grain of opium. He also prescribed a draught containing balsam of copaiba, tincture of henbane, and liquid potash, every four hours. The next morning he had experienced only slight and temporary relief from the bathing and the first few drops of medicine: his symptoms now were unabated. During the night he had been in great pain, walking up and down the room, and had passed his water by a few drops, as many as seventeen times. Tongue furred; pulse rapid. The finger was now introduced into the rectum, and the prostate discovered to be increased in size, very tense, and pressing strongly upon the gut. The examination produced great pain; fluctuation could not be detected. He was ordered to bed: six leeches were to be applied to the perinæum, followed by fomentations and the application of a warm poultice. He was ordered five grains of calomel and one of opium, with the following draught, every four hours:—Tincture of henbane, twenty minims; half a drachm of sweet spirits of nitre; ten minims of liquid potash; and an ounce of camphor mixture. Plenty of diluents. On the next morning it was found that the leeches had given him temporary relief. He has been in great pain all night, and has passed his water every quarter of an hour: this was accompanied with great pain. The prostate was still enlarged, painful, and tender. He had a severe rigor last evening. Bowels confined. Pulse full; tongue furred; countenance anxious. A catheter was easily passed into the bladder, but scarcely any urine was found there. The man cried out with pain as the instrument passed over the prostatic portion of the urethra. Urine passed today, and with copious mucous deposit. Six drachms of castor-oil directly; after the bowels have been opened, an opium suppository to be placed in the rectum. Five grains of calomel, and ten of Dover's powder, at bed-time: the following draught every four hours:—an eighth of a grain of tartar emetic, twenty drops of tincture of henbane, an ounce of water. Linseed-tea *ad libitum*. From this time he gradually improved, and in a few days was quite well. The case was related with the view of showing the necessity of using injections of the nitrate of silver with some care. This man had been an out-patient of a hospital, and had an injection of the nitrate given him to use: this he did with the effects stated: no doubt the injection was of proper strength, as he was under an eminent surgeon. No one doubted the value of nitrate of silver generally; but this case, with four or five others, had convinced the narrator of the case of the necessity of some cautions in the use of that agent.

Mr. Acton defended the proper use of the nitrate of silver in cases of gonorrhœa. He questioned, in this instance, if the prostatic inflammation resulted from the injection; at all events, such an untoward proceeding would not have occurred from nitrate of silver when used by a surgeon.

Dr. Tilt read a paper on

Subacute Inflammation of the Ovaries and of the Fallopian Tubes as one of the Causes of Sterility.

After dividing the causes of sterility into those which are self-evident, those which are disputable, and those which are of a mysterious nature, Dr. Tilt drew the attention of the Society to subacute ovaritis as a frequent cause of sterility. He founded this assertion—

I.—On physiological data.

II.—On the testimony of authors.

III.—On the cases which he brought forward.

He began by establishing the paramount importance of the ovaries in the hierarchy of our organs, showing that the anatomical phenomena of ovulation were identical to those termed inflammatory, and thus led us to believe that in morbid ovulation the healthy processes might often pass into the inflammatory, and furnish a satisfactory explanation of the increase of pains and of heat in the ovarian regions—symptoms so frequently met with in difficult menstruation. He considered that subacute inflammation of the ovaries might produce all those symptoms which are called by the common name of dysmenorrhœa, although they depend on the disorder of different organs. He also admitted that the symptoms of subacute ovaritis might vary according to the nature of the patient's constitution, producing hysterical symptoms in nervous and highly-excitable females, and morbid products and sterility in those of a strumous constitution.

II.—Dr. Tilt proved, by the testimony of authors, the frequency of unaccounted-for ovarian lesions; and as these lesions are admitted by all to be the products of inflammation, he drew, as an evident conclusion, that the ovaries and their peritonæal covering were frequently subjected to inflammation, though not recognised as such during the patient's life, nor treated accordingly. Respecting the production of dysmenorrhœa, Dr. Tilt admitted, that in some instances all the symptoms of that disease were produced by subacute ovaritis; while in others, as it has been well established by Dr Oldham, ovaritis determines dysmenorrhœa by the inflammatory congestion of the uterus to which it gives rise; but he did not agree with Dr. Rigby that membraniform exudations in the catamenia were always the proof of ovaritis. Having thus established that subacute ovaritis is a frequent cause of dysmenorrhœa, Dr. Tilt observed that, dysmenorrhœa and sterility being admitted as concomitant facts, depending on each other, or on the same cause, he had a right to infer that subacute ovaritis was a cause of sterility, and that this imperfection was the result—

1. Of morbid lesions of the stroma, or of the vesicles of the ovula therein contained.

2. Of a false membranous deposit lining the ovaries so as to preclude the exit of the ovula.

3. Of lesions in the tube destined to convey the ovula to their uterine abode. He likewise stated that sterility was sometimes produced by the uterine extremities being blocked up by a glutinous deposit, and asked whether there was any possibility of doing for these organs what Mackintosh and Simpson havé done in similar cases of temporary occlusion of the neck of the womb.

In concluding the enumeration of morbid lesions, Dr. Tilt remarked, that as our physiology of the ovaries dates only from yesterday, we need not be surprised if the knowledge of their pathology is also in an embryotic state.

III. The paper was concluded by Dr. Tilt's giving three cases in which the diagnosis of the disease was fully confirmed by an accurate examination of the patient through the rectum, and wherein the treatment recommended brought on the cessation of sterility after it had lasted five, six, and seven years. The remedial measures prescribed were leeches, to diminish the chronic ovarian congestion, blisters to break the chain of a morbid nervous action, fostered by long habits of suffering, mercurial ointment, combined with narcotic extracts and camphor to reduce pain and vascular action; and medicated enemata were administered with the same intention.

In the discussion which ensued, Mr. **Brown** made some remarks on the causes which induced a pathological change in the condition of menstruation; among the foremost of which, he regarded cold, more particularly applied to the feet from thin shoes. He mentioned, in reference to the examination by "double touch," that Dr. Blundell had twenty years since taught and practised it.

Dr. **Murphy** eulogized the paper, and mentioned that in some cases the condition of the uterus itself, as contraction of the neck, &c., appeared to be the chief cause of dysmenorrhœa. In some of these cases, mechanical means to relieve the stricture had cured the disease; in other cases, no such benefit had followed. He mentioned that, of ten cases of ovaritis, none affected the left ovary. He spoke of the necessity of using bougies and the speculum, with care, in some cases of dysmenorrhœa, as occasionally they did harm.

Mr. **Gream** attributed sterility in some cases to the luxurious habits of young girls in the higher walks of life. He alluded to sterility as the result of contraction of the cervix uteri, and of its cure by dilatation with bougies.

Dr. **Webster**, among his friends, knew 140 couples who had no children.

Mr. **Greenhalgh** mentioned cases of dysmenorrhœa which were cured by marriage. How was this? Did ovarian excitement act on the *similia similibus curentur?* He had found the left ovary affected more frequently than the right. How did we diagnose subacute ovaritis?

Mr. Acton made some remarks on the value of the speculum, and on the safety with which the uterus might be injected with nitrate of silver. He questioned the ease with which ovaritis was said to be diagnosed.

Dr. Tilt, in answer to Mr. Greenhalgh's observation respecting the difficulty of diagnosis in these cases, stated that he was so convinced of the value of the objection, that he had first appealed to physiology, to show that the disease was likely to occur, —and then to morbid anatomy, to certify how frequently inflammatory lesions were found in and around the ovaries; thus proving a corresponding frequency of previous inflammation, though not noticed ncr treated as such. He admitted that the ovaries have their neuralgic affections, like other organs, and that it was impossible to affirm unhesitatingly the existence of subacute ovaritis, without an accurate examination, which could neither be enforced by a medical man nor would be consented to by the family, unless the patient were actuated by some such strong motive as the desire of progeny. When a rectal examination was made, the ovaries were found increased to double or triple their natural size, and painful to pressure, which is not the case in health; the vagina, on being explored, is found hot; the womb is healthy, but its lateral movements induce pain. Such evident symptoms of inflammation being observed, when it was possible closely to investigate the disease, Dr. Tilt thought it might not unreasonably be inferred that the same lesions likewise existed when it was not possible to make so accurate an observation, the correctness of the inference being confirmed by the efficacy attending the use of the same remedial measures in both cases.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Tuesday, April 24, 1849.

Dr. Addison, President.

On Tuesday, a special general meeting of the Society was held, pursuant to notice, to take into consideration the report of a Committee, appointed by the Council, with reference to the removal, or otherwise, of the Society from its present position in Berners Street. For some time past it would appear that the attention of the Council had been directed to this object, but the report of a Committee, in 1847, fell to the ground, and the subject was again brought under special notice last year. The Society at present only occupies part of a house, and the yearly rental is £217 per annum. From causes which it is not necessary publicly to allude to, the Council have long been desirous of having control over the entire house, not only to remove present inconveniences, but to make more accommodation for the Fellows, not only with respect to the library, but in other respects. The Society holds its present lease until 1855, and the gentleman of whom they hold has a prior lease, expiring in 1860, and he has agreed to give up that lease to the Society for a yearly rental of £210. The Society would then have to pay taxes amounting to about £60 per annum. The Committee above referred to recommended that the house should be taken on these terms. It was now contended that this proceeding was not advisable, for the Society would have only the fag end of a lease, which would saddle them with dilapidations; that the situation was not eligible; and that the meeting-room was too small and ill-ventilated. It was answered that no other site could be procured; that many houses had been looked at, and none found to suit; that the situation was proved to be good by the increasing number of Fellows attending the meetings, and from other causes which proved the success of the Society. Some discussion took place, but we believe that the main points have been fairly stated. On a motion being made that the report of the Committee be received and acted upon, an amendment was moved, to the effect that it was not advisable to take any steps: this was negatived; but as many voted for the amendment who, nevertheless, did not agree with the resolution, it was suggested that the Council should pledge themselves not to carry out the proposed negotiation unless they could procure an extended lease beyond 1860. This the Council could not do, though, from what transpired, it was evidently their intention to act in that spirit, and not expend money on enlarging the meeting-room, &c., without good reason for seeing their way clear. The Fellows, however, thought it best to bind the Council to these terms, and an amendment was proposed, to carry out this view. After some discussion the amendment was lost, thirty-one voting against it, and twenty-nine in its favour. The Council will therefore take the house at a rental of £210, and will, no doubt, as soon as it is desirable, make such alterations as the increased wants of the Society so imperatively demand.

SOUTH LONDON MEDICAL SOCIETY.

March 29th, 1849.

Dr. Gull, Vice-President, in the Chair.

Mr. Waterworth read a case of

Sanguineous Effusion on the Brain, simulating, during life, Fungus Hæmatodes.

E. S., æt. 3 years, who had been on a

visit to Ware, Herts, returned with her general appearance and state of health far from being satisfactory, in consequence of which the author's opinion was requested: the symptoms were, uneasiness referred to the abdomen, pallid countenance, with a dark areola around the eyes; she was fretful, and had diminished appetite; the tongue was rather of a dirty white colour, the skin and pulse normal, flesh flabby, and the belly soft and tympanitic; there was also slight frequent cough, but the chest was resonant, and the murmurs universal, and although the child played about as usual, she was easily fatigued, and evinced the usual symptoms of struma. Prescribed —Hyd. Cret. gr. ij.; Pulv. Rhei gr. ij.; Sod. Carb. gr. iij.; P. Ipec. C. gr. ss. bis in die, with light diet.

20th. — The symptoms as before. — Pergat.

24th.—As before; the alvine and vesical secretions tolerably healthy.—Pergat.

Feb. 2d.—On this day there was observed ecchymosis of the right eyebrow, as from a blow, except that the colour was at once that of old extravasation. The appetite was, however, improved, and she was less peevish, slept better, and the bowels rather less free. —Rep. Pulv. c. Pulv. Jalap.

8th.—The right eyelid nearly recovered, and the left assuming the same appearance. A grain of quinine was added to each powder, and she was directed to take beef-tea, with porter and wine.

10th.—Eye-ball protruded.—Pergat.

12th.—The symptoms as before.—℞ Mag. Sulph., Quin. Sulph., Inf. Rosæ, et Tr. Opii.

14th.—Eye more protruded, and the lining membrane of the conjunctiva enveloping the eye becoming very anæmic: the child was also weaker.

17th.—Symptoms increasing, discolouration of the lid extended, and the eye excessively protruded, with the temporal and frontal bones raised. There was, however, no tenderness or cerebral excitement, but the body, and particularly the extremities, were becoming anasarcous. The skin was universally white, like alabaster, and there was also epistaxis to some amount. Porter, wine, and beef-tea, increased. From this period it is not necessary to relate the daily symptoms, as the child gradually progressed from bad to worse, from increased debility, until the 26th, when death took place.

Post-mortem appearances.—Externally, extensive ecchymosis around the orbit; the eyeball pushed forward, and between the periosteum and the bone an appearance similiar to a node. Internally, on removing the calvarium, the dura mater was found firmly adherent, and between it and the orbital roof of the left side a considerable quantity of effused blood becoming organised. On the side of the frontal bone near the coronal suture, extending over a portion of the parietal, effused blood also. The internal table was gone, with needle-like processes extending through the space, and portions of comminuted bone in the coagula. The same appearance also at the junction of the parietal with the occipital. The brain was healthy, except a slight congestive appearance of the pia mater on the upper surface of the left lobe anteriorly; but there was no trace of any artery being opened to account for the effusion of blood.

Mr. Hicks inquired whether the author considered death to be the result of pressure, or the oozing of blood in an anæmic constitution?

Mr. Waterworth did not think the child died from pressure of the brain, as none of the symptoms presented themselves, but rather inclined to the opinion that it was from the epistaxis in an exhausted constitution. Anasarca showed itself prior to the protrusion of the eyeball. There was no sickness, no cephalalgia, nor morbid appearances of the brain: in answer to Mr. Wright, said there was nothing remarkable in the alvine evacuations.

Dr. Barlow thought the negative evidence was against the idea of the child's dying of anæmia, and wished to know *how* the child died.

Mr. Waterworth.—The symptoms already detailed became aggravated; the surface alabaster-like; pulse hæmorrhagic; the appetite failed, and the child sank apparently from exhaustion; but there was no coma, no diarrhœa, and he would attribute death to a failure of the heart's action.

Mr. Taylor asked Dr. Barlow if anæmic murmurs were frequent in children.

Dr. Barlow replied that he had frequently heard them in children.

Mr. Hicks thought the anæmial condition of the system caused the epistaxis of the internal clot, and referred to cases where he had seen both children and adults die of uncomplicated anæmia: children, especially, cannot bear a loss of the vital fluid.

Mr. Taylor asked, was there syncope?

Mr. Waterworth said there was not: he referred to the opinion that the fibrine of the blood increased in proportion to the escape from the system, and thought that this opinion was borne out by the quantity discovered on the inner surface of the bone.

President said that in scurvy the fibrinous deposit increased; he only spoke from memory, but thought it was 120 in 1000.

Mr. Cock inquired if a blow some time previous might have been inflicted. He found the pathological specimen diseased through its whole thickness. The pericranium bears the same appearance as the dura mater; the bone is somewhat similar to that of an adult where a blow has been received. The clot he finds to be a fibrinous effusion: it is partly organized both between the bone and periosteum, and the bone and dura mater. It may have been the result of a blow received even twelve months since: does not think the recent effusion of blood organized, nor does he think the state of the bone to have been the cause of death.

The arachnoid was not inflamed; there was no purulent fluid, nor abscess of the brain, but thought that a more particular investigation, if allowed, would have explained the fatal cause.

Mr. **Waterworth** said that it could not have been the result of a blow, as there was a nearly similar appearance in another portion of the cranium.

The **President** thought that the spiculæ of bone projecting into the clot was a proof that the disease was chronic.

Mr. **Cock** said that simple extravasation of blood would not alter the state of bone.

Mr. **Babbage** thought the disease was scurvy, and wished to learn from the members was there an hæmorrhagic condition at present prevailing, as he had lately met with many cases of epistaxis and menorrhagia, which he believed to depend on atmospheric influence.

Dr. **Murphy** thought the disease malignant, but that it had spread to the veins, and that the symptoms were those of phlebitis.

Mr. **Cock** thought that phlebitis may have been the cause of death, and had seen cases where the projecting eye-ball was the effect of inflammation of the ophthalmic vein. He thought there were a few cases recorded where blood became organized.

Mr. **Swete** suggested that there might be some venereal virus in the child.

Mr. **Cock** said diseased bone is not hereditary from a venereal taint, and very much doubted if syphilis ever attacked a bone.

Mr. **Ray** alluded to a child with disease of the malar bone from a blow: the child got well; the lower jaw was now exfoliating; and the child had cut the two molars on that side, but not on the other.

The **President** thought this analogous to Hunter's case, where hair grew in the neighbourhood of an ulcer.

ROYAL INSTITUTION.

May 4, 1849.

Dr. Mantell, on the *Geology of the Isle of Wight.*

Dr. Mantell occupied the first half of his lecture by describing the geology of London, and the surrounding country; the London clay, an ëocene or tertiary formation, of marine origin, is surrounded on all sides by the chalk, which at one time formed the bed of a vast ocean. When travelling from London to the Isle of Wight, after leaving the London clay, and traversing the chalk, we come to the wealden, a fresh water formation, which at one time formed the bed and the delta of a mighty river.

Dr. Mantell, having consumed much of his time in describing the geology of the South of England, gave a hurried sketch—or rather catalogue—of the geological formations met with in the Isle of Wight. The lecturer was fortunately able to put his audience in the way of compensating for the haste and deficiency of his description of the geology of the Isle of Wight, by recommending to them his work on the geology of that island, recently published by Mr. Bohn. In the Isle of Wight, we have an epitome of the geological formations which distinguish the South of England; the tertiary strata being above the chalk, and the chalk above the wealden or fresh water formation. This last formation, with its interesting remains, has been laid bare in two parts of the island by the encroachments of the sea. Owing to the length of time occupied by the previous part of the lecture, the description of the remarkable and interesting remains found in this fresh water stratum, was unfortunately incomplete and hurried. This is the more to be regretted, as it is to the original masterly researches of Dr. Mantell, into the nature of the organic remains in question, that he in great measure owes his high and well-deserved reputation as a geologist. In this fresh water formation are large fossil trees, thirty and forty feet long, the woody parts of which are replaced by carbonate of lime, while the bark is converted into coal. Weeds are cemented to these trees, and intermingled with them are transparent river shells, fresh water plants, and the bones of large reptiles. These bodies have been borne down some mighty river, transported for perhaps thousands of miles on rafts, composed of the trees now in a fossil state. The more recent researches of Dr. Mantell have added materially to our knowledge of the structure of the iguanodon, the jaw-bone, arm bone, shoulder blade, and ribs of which have been recently discovered. The giant thigh bone of that great reptile was with labour propped up on end by two assistants, and that bone, originally six feet in length, was itself not perfect. As in the mylodon and megatherium, the lower jaw of the iguanodon is toothless in front. This enormous herbivorous animal, endowed with a pendulous under lip, and a long prehensile tongue, while from its essential structure it is to be classed among reptiles, is in many respects modelled after the fashion of the mammalia.

Correspondence.

THE USE OF THE COTYLEDON UMBILICUS IN EPILEPSY.

Sir,—As you did me the favour to publish my short paper on the "Cure of Epilepsy by the Cotyledon Umbilicus;" and having had numerous applications from medical men and others in different parts of the country, making inquiries where the plant or juice can be obtained, I thought you might not object to do me the additional favour of inserting this note in the next number of your journal, informing the profession that a fluid-extract of the plant, prepared in every way to my satisfaction, may be obtained of Mr. Hooper,* the operative chemist, which, as far as I can judge, appears to possess all the properties of the fresh juice in a concentrated form; and I should imagine that its medicinal qualities remain the same.

I am informed by Mr. Hooper, that six pounds of the plant yielded two pints and a quarter of the fresh juice, and this was reduced by the process of inspissation to two ounces and six drachms. Now it will be found by calculation, that the dose of the fresh juice, which is one ounce—for I now give more than I did at first—is equalled by a little more than twenty-seven minims of this prepared extract. The doses may be therefore thus stated:—

Fresh juice, one ounce twice daily.
Hooper's inspissated juice, half a drachm.

I avail myself of the present opportunity to state that this is the best time to collect the plant, as it is shortly about to flower, and the juices are richest.

For the benefit of those who are not acquainted with the cotyledon, I would state that a good figure of it, as it appears in June and July when in flower, has been published in the number of the Pharmaceutical Journal for this month.—I am, sir,

Your obedient servant,
Thomas Salter.
Poole, May 2, 1849.

LETTER TO THE POOR LAW MEDICAL OFFICERS OF ENGLAND AND WALES.

Gentlemen,—Several of the contributors to the fund for defraying the expenses incidental to the proceedings of the Committee of Poor Law Medical Officers, have expressed their wish that the names of those gentlemen who have subscribed should be printed, in the hope of others being thereby induced to contribute.

We have reason, however, to know that other gentlemen would wish their names not to appear in print.

Under these circumstances the Committee refrain, for the present at least, from printing a list of the names of subscribers.

At the same time that the Committee desire to express their thanks for contributions received, they beg to state that, there being 2914 Poor Law Medical Officers, they have received 343 subscriptions only, since the meeting on the 19th February; and of these several were from gentlemen who had subscribed once, and in one instance twice, before.

It is hoped, therefore, that those gentlemen who have as yet contributed nothing will not consider themselves as excused from assisting, in however small a degree, the fund for the purposes already stated.

I have the honour to remain, gentlemen,
Your very obedient servant,
Thomas Martin,
Treasurer to the Committee.
Reigate, 30th April, 1849.

Medical Intelligence.

THE CHOLERA IN PARIS.

Up to the 7th inst. there had been in the hospitals and infirmaries 3620 cases, and 1950 deaths. The number of deaths in the city of Paris amounted to 916.

A NEW MODE OF EXPELLING THE CHOLERA.—THE GUNPOWDER TREATMENT OF CHOLERA IN GALWAY.

According to information from Galway, the return of cases in that town up to May 1, amounted to 840, of which 320 proved fatal. The local authorities have hit upon a novel method of getting rid of the disease. It is this:—

The 68th regiment yesterday fired at the Square, Galway, 20 rounds of blank cartilage each rank and file, at the express desire of the local authorities, for the purpose of purifying the air and expelling cholera!

HOSPITAL FOR CONSUMPTION AT BROMPTON.

The anniversary festival of this charity took place last week. Mr. Disraeli filled the chair, and among the guests present were M. Guizot, Lord Feversham, Sir John Pakington, M.P., Mr. Christopher, M.P., the Hon. Mr. Melville, the Hon. Mr. Monson, the Rev. Robert Montgomery, Dr. Forbes, and Mr. Phillip Rose. About 200 gentlemen sat down to dinner.

Mr. Disraeli, after proposing the usual

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* Mr. Hooper's address is No. 7, Pall-Mall East.

loyal toasts, gave "The Church," which he coupled with the name of the Rev. R. Montgomery. He passed, in doing so, a very high eulogium upon the exertions which that gentleman had made on behalf of the charity—exertions which had realised a sum of not less than £1,000; and which Mr. Montgomery had greatly enhanced by writing a poem, dedicated to the service of the hospital.

The Rev. R. MONTGOMERY, in eloquent terms, acknowledged the compliment which the chairman had paid to him.

Mr. PHILIP ROSE read the report, which stated that during the past year the committee had been able to open two additional wards, containing 12 beds, the total number of in-patients being increased thereby to 81. Since the opening of the new building in November 1846, 676 patients had been admitted, 466 of whom had been relieved, 129 died, and 81 remained in the house. The admissions during the past year had been 282, of whom 52 had died. From the 1st of January last the number admitted had been 95, of whom 11, or more than 1·9th, had died. The number of out-patients treated during the year had been 2,805, and since the opening of the building in 1846, 11,137, the average number relieved daily being about 115. A trifling decrease had taken place in the amount of the smaller donations during the past year; but the annual subscriptions continued steadily to increase, and some very large and remarkable contributions had been made to the funds of the charity. Of these, the principal was a sum of more than £1,600, the proceeds of a concert given by Mademoiselle Jenny Lind in aid of the extension of the building. The Rev. Sir H. Foulis had agreed to erect a chapel at his own cost, and several other individuals had also extended their benevolence to the hospital in the most liberal manner.

PRESENTATION OF A TESTIMONIAL TO DR. FORBES.

THE Committee appointed at the General Meeting by the Subscribers to the Forbes Testimonial, to expend the sum collected, in the purchase of a piece of plate, presented this Testimonial to Dr. Forbes on the evening of the 3rd of May. The Committee invited the subscribers in London and its vicinity to meet them on the occasion, and nearly one hundred professional gentlemen obeyed the summons.* The Testimonial consists of a very handsome piece of plate, a candalabrum and epergne, beautifully designed and executed by Messrs. Smith, of Duke Street, Lincoln's-Inn Fields. The stem is supported by three figures, representing Industry, Health, and Hope, corresponding to Dr. Forbes' motto, "labore, robore, spe."

Mr. Stanley, President of the Royal College of Surgeons, presented the Testimonial to Dr. Forbes. After a short allusion to the circumstances in which the subscription originated, Mr. Stanley proceeded to read the following address, framed by the Committee in accordance with the resolution passed at the general meeting:—

Sir,—"On the occasion of your relinquishing the editorship of the British and Foreign Medical Review, it was felt by many of your friends and the admirers of that journal, that a proper opportunity had arrived for expressing to you their sense of the deep service you had rendered to Medical Science, by the spirit and method in which, for twelve years, you conducted that important and influential publication. It would be out of place to enter here into any statement of the mode in which that journal was conducted, or into any estimate of the great influence it from the first excited on English medical literature,—an influence, we may add, which still continues, and which is not likely soon to pass away. Suffice it to say, that you brought to the task of editorship intellectual and moral qualities of so high an order, that your Review was at once placed in the foremost rank among the journals of periodical criticism, both medical and general. It was impossible that such a journal should cease to appear without some acknowledgment on the part of those who had so largely benefited by it. It would have been an act of injustice if no record of regret had been entered to mark the close of its useful and honourable career. A subscription was therefore opened, to present you with a Testimonial, in expression of the sense of your professional brethren on the occasion; and the rapidity with which the lists were filled, testifies to the esteem with which you are universally regarded.

"We may be permitted also to add that we do not present this Testimonial only to the late editor of the British and Foreign Medical Review, but also to the man whose excellent moral character is no less remarkable than his wisdom and sagacity; to the physician who has played an important part, and filled many important positions, without ever forgetting that life is a sacred trust, which we are bound to keep pure and unsullied; to the physician who is, if any one is, a pattern to the younger members of our profession of truthfulness, manliness, and sincerity.

"We will not occupy your time further than to give expression to the earnest prayer of this Assembly, that many years may be permitted to you to enjoy the honour which your professional brethren now offer you."

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* We have been requested by the Hon. Secretaries to state, that, from some inadvertence, cards of invitation were not sent to three or four subscribers. The secretaries desire to express to these gentlemen their regret for the omission.

Mr. Stanley then said—In the sentiments expressed in this Address, Dr. Forbes, I most heartily concur, and I am happy that it has fallen to my lot to discharge the pleasing duty of presenting it to you. It is a most gratifying circumstance to me individually to find that the merits of one whom I esteem so highly have drawn forth this public expression of gratitude and regard; and, on public grounds, I cannot but rejoice that the services which have been so well and so manfully rendered have met with spontaneous and immediate recognition.

Dr. Forbes replied: I have, Sir, on many occasions regretted that I did not possess the happy art of giving appropriate words to feelings which demanded utterance, and never have I regretted it more than on this occasion. But I console myself with the thought that it is not for making speeches, for throwing easily vivid thoughts into eloquent words, that so many of the most eminent of my professional brethren have assembled here this evening to confer on me this great honour, but for a strenuous endeavour to discharge a duty which I had assumed, and to fulfil the tacit guarantee into which I entered when I became the editor of a journal of periodical criticism. And on this ground I do not refuse the honour you offer me; I do not deny that when I established the British and Foreign Medical Review (although I did not altogether exclude personal and private considerations) I did so mainly on public grounds, because I thought such a journal was wanted, and would do good service to the profession. But, sir, I cannot permit myself to assume all the merit you have attributed to me in the too flattering address you have now read. The merit of the journal which I lately conducted, of its literary pretensions, and of its philosophical acumen, is not due to me, but to the band of admirable contributors whom I was enabled to assemble round me. In their names I will not refuse the terms in which you have been pleased to speak of that journal. I may have appeared as an occasional contributor, and more frequently as the reviser or corrector of the criticisms of others, but the chief part of my duty was to see that the works of authors went into competent and impartial hands, and were criticised by men who, as far as I could judge, were the most likely to give a true and unbiassed account of their contents. And, sir, I believe that, as far as is possible, the criticisms in the British and Foreign Medical Review were able, were honest, were unstained by feelings of petty rivalry, and untarnished by the bias of personal enmity. It was at least my intention to make them not only sound in philosophy, but also just as to the authors' merits. That my endeavour was, at any rate, partially successful, I have the high gratification of feeling this evening, sir. That magnificent piece of plate, valuable as a mere mass of metal, valuable as a work of art, has yet to me a value of a different kind, which is not to be measured by gold, nor supported by the most perfect of human productions. The Editorship of the British and Foreign Medical Review was to me no ungrateful task: it was not performed with pain and repining; on the contrary, it was a pleasure to me, a gratification of all my faculties, a true labour of love. But had it been otherwise,—had it been, indeed, a hard task performed with sighs, and urged by painful necessity,—I should have been repaid for it now. Now I should have received my reward, and have taken the vantage ground from fortune. For a man may be justly proud when he finds his labours thus rewarded, by the approbation of many of the most eminent of the profession, not only in this country, but also in America—that mighty state which is indissolubly connected with Great Britain by so many ties of common interest. That Testimonial, sir, shall be to me the dearest of my possessions: whatever may happen to me, from it I will not be separated; and it shall be cherished by my children when I can receive no more pleasure from it.

I feel, gentlemen, that I have most imperfectly expressed my grateful feelings towards you. You will understand what it is not easy to put into words. Permit me, sir, to acknowledge the kind terms in which you individually have spoken of me, and which, from you, are words indeed of worth.

Dr. Fórbes was loudly applauded by the audience, and shortly after the conclusion of his speech, the meeting separated.

OBITUARY.

At Brighton, on the 3d inst., in the 67th year of his age, Joseph John West, M.D., formerly of Blackheath, where he had resided many years.

ROYAL COLLEGE OF SURGEONS.

Gentlemen admitted members on the 4th inst.:—G. G. Brown—J. L. Kennedy—R. C. Hurst—H. C. Cantley—W. F. Wratislaw—J. J. Merriman—C. Lowdell.

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 3d of May, 1849:—Thomas Mudge, Bodmin, Cornwall—George Anthony Kirsopp Lake, Devonshire—Daniel Rossiter, Frome, Somerset—George Down, Pimlico.

Selections from Journals.

PATHOLOGY.

ON THE ETIOLOGY OF AFFECTIONS OF THE MAXILLARY BONES AMONG LUCIFER-MATCH MAKERS.

Dr. Helft, of Berlin, considers from his investigations of these affections, that they are not attributable, as supposed by some pathologists, to a peculiar and special disposition in these bones to the morbid influences of the vapour of phosphorus. He is of opinion that they originate in periostitis, a view which in his judgment receives support from the observation of similar effects as the consequence of the same morbid conditions of the gums produced by other irritating substances. This form of periostitis, whether it be traumatic or rheumatic, or whether it arise from any other cause, at length implicates the substance of the bone, obstructing or destroying its vessels by exudation or suppuration, and thence follows necrosis with those pathological conditions which have been so fully described by Dr. Giest, of Erlangen, although this author has not assigned them to periostitis as the immediate cause.

Dr. Helft points out that those only among the workers in phosphorus who are of a scrofulous or cachectic habit, and in whom a morbid state of the gums or alveoli exists, are exposed to this particular form of disease, as these conditions necessarily render the periosteum more susceptible of the action of phosphorous vapours.

Dr. Helft concludes that rheumatism alone will not produce it, but that the same effects would occur in any other morbid condition of the gums, &c., if exposed to the irritant action of phosphorous vapour. An analogous effect is produced by other irritating substances, as is shown in the almost endemic prevalence of periostitis of the alveoli in eastern countries, which partly arises from the abuse of tobacco, and partly from want of cleanliness, combined with poorness of diet.

The experiments of Bibra on animals show that phosphorous vapour is capable of causing bronchitis, pneumonia, gastritis, periostitis, exostosis, and necrosis. Professor Rigler, of Constantinople, attributes the endemic prevalence of these diseases of the mouth to the employment of strong soap to cleanse the mouth and gums by the Turks, and of late by other orientals. Dr. Rigler also informs us that the same disease prevailed extensively among some Albanians who were taken from their mountain homes and subjected to military discipline, with an entire change of diet. That the disease had arisen from these causes was rendered evident by its complete arrest on a return to their usual diet, by the prohibition of tobacco, the frequent cleansing of the mouth with a very dilute solution of mineral acid, cauterizing the gums with lapis infernalis, and the adoption of other remedial measures.

From the preceding facts, it is obvious that a diseased condition of the jaw-bone may arise from other causes than the irritant action of phosphorus vapour; and, whatever may be the ultimate decision with regard to Dr. Helft's theory, it is undoubtedly of value, as pointing to the due hygienic measures for the prevention, and to the curative means to be adopted for the arrest of the disease.—*Casper's Wochenschrift*, Aug. 19, 1848.

TOXICOLOGY.

RECOVERY FROM THE EFFECTS OF A LARGE DOSE OF DIGITALIS. BY M. DE COLLEVILLE.

A woman, æt. 68, while suffering from œdema of the lungs, and when nearly convalescent, was ordered to take an infusion of the dried leaves of digitalis, in the proportion of (60 centigrammes) 9¼ grains in a quart of water. The druggist by some accident used (15 grammes) 231½ grains. This was infused in eight glasses of water, and administered to the patient in divided doses. She was soon attacked with great uneasiness, nausea, bilious vomiting, confused vision, amounting to blindness, ringing in the ears, vertigo, convulsions, and syncope. The face was pale; there was great coldness of the skin, with palpitation; thready, slow, and intermittent pulse, and pain in the abdomen. These effects were produced by four doses of the infusion. A physician who saw the patient early the following morning, found her in a highly dangerous condition. He prescribed saline enemata, sinapisms with warm bottles to the feet, and frictions with camphorated spirit to the skin. Strong coffee was administered internally. In six hours there was no apparent amendment: the vomiting, convulsions, and fits of syncope continued; but the difficulty of breathing under which the patient had previously laboured had entirely disappeared: there were no longer symptoms of œdema of the lungs, and the chief object then was to counteract the effects of the poison. Syrup of orange-peel and other simple medicines were prescribed, and an enema of assafœtida and camphor administered. Three days after the accident the vomitings were less frequent, and the syncope and convulsions had ceased: but there was still vertigo, with ringing in the ears and hallucinations of vision. In six days the patient had perfectly recovered from the effects of the poison.—*Journ. de Méd. de Bordeaux.*

BOOKS & PERIODICALS RECEIVED

DURING THE WEEK.

Eighth and Ninth Annual Reports of the Registrar General, 1847-8.

The Misapplication of Anæsthesia in Childbirth exemplified by Facts. By G. T. Gream, M.D.

The New York Journal of Medicine and the Collateral Sciences. March 1849.

On the Treatment of Headache by Benumbing Cold, with other Anæsthetic Uses of Congelation, &c. By Jas. Arnott, M.D.

On Enlargement of the Liver and Spleen in Children. By Dr. Battersby.

La Presse Médicale. No. 19.

Schleiden's Principles of Scientific Botany. By Dr. Lankester.

A Physician's Holiday; or, a Month in Switzerland. By John Forbes, M.D.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, May 8.

BIRTHS.		DEATHS.		*Av. of* 5 *Spr.*	
Males....	801	Males....	525	Males....	494
Females..	721	Females..	461	Females..	469
	1522		986		963

CAUSES OF DEATH.		*Av. of* 5 *Spr.*
ALL CAUSES	986	963
SPECIFIED CAUSES	982	959
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*..	248	198
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	46	48
3. Brain, Spinal Marrow, Nerves, and Senses	118	123
4. Heart and Bloodvessels	34	39
5. Lungs, and other Organs of Respiration	161	131
6. Stomach, Liver, and other Organs of Digestion	50	62
7. Diseases of the Kidneys, &c...	13	11
8. Childbirth, Diseases of the Uterus, &c.	10	8
9. Rheumatism, Diseases of the Bones, Joints, &c.	8	8
10. Skin	3	1
11. Old Age.....	33	50
12. Sudden deaths	4	11
13. Violence, Privation, Cold, &c.	16	33

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	14	Convulsions	38
Measles	29	Bronchitis	57
Scarlatina	41	Pneumonia	77
Hooping-cough ..	71	Phthisis	139
Diarrhœa	20	Dis. of Lungs, &c..	7
Cholera	4	Teething	13
Typhus	36	Dis. of Stomach, &c.	0
Dropsy	15	„ Liver, &c...	14
Hydrocephalus ...	25		
Apoplexy..........	27	Childbirth	7
Paralysis	24	Uterus............	3

REMARKS.—The total number of deaths was 23 above the weekly spring average.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer	29·85
„ „ „ Thermometer[a]	55·2
Self-registering do.[b] .... Max. 96·5	Min. 28·

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, ·17.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 1°·2 above the mean of the month.

NOTICES TO CORRESPONDENTS.

Dr. Black.—The second series has been received, and will be inserted in the following number.

Mr. Barett.—We will bear in mind the suggestion.

Mr. J. Wilton.—The petition will be inserted next week.

Mr. Gream writes to the following effect:—

> Sir,—My attention has been called to a small pamphlet purporting to be a reprint of a paper of mine, which was published a few weeks ago.
>
> The pamphlet has been circulated amongst many members of the profession. It is not at all a true copy of my paper, and is evidently printed to gain some object, the motive of which I am at a loss to comprehend.
>
> It is stated to be published by a firm not in existence, as I have ascertained; and has no printer's name attached to it.
>
> It is scarcely necessary for me to mention that I knew nothing of the pamphlet, until it was shown to me late last night by a friend.
>
> If you will do me the favour to insert this in your next journal, I shall feel very much obliged to you.—I am, sir,
>
> Yours very faithfully,
> G. T. GREAM.
>
> 42, Hertford Street, May 9, 1849.

RECEIVED.—Mr. J. Hinton.—Carnarvon and Denbigh Herald.

THE GENERAL INDEX.

We have to announce to our Subscribers that a GENERAL INDEX to the *first* 40 *Volumes* of the LONDON MEDICAL GAZETTE will, it is calculated, form a large Volume of about 700 pages. The cost of the INDEX VOLUME, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. WILSON AND OGILVY, 57, Skinner Street, will receive the Names of Subscribers.

Lectures.

THE
LUMLEIAN LECTURES FOR 1849.

Delivered at the Royal College of Physicians, London,

BY R. B. TODD, M.D. F.R.S.

ON THE PATHOLOGY AND TREATMENT OF CONVULSIVE DISEASES.

LECTURE III.—*continued.*

A QUESTION not less important to the determination of a correct pathology of epilepsy than that which we have now discussed, must next occupy our attention. This is, as to the intrinsic nature of the disturbance of the brain in this malady, and the exact organic condition of it which is capable of exciting the epileptic phenomena.

Is it a state of inflammation? or one of congestion? or is it a condition the opposite of congestion—one of deficiency of blood? or, in fine, is it a perverted nutrition, due more to a depraved *quality* of blood, rather than to alterations in its *quantity*, but by no means independent of the latter?

It is scarcely worth while to occupy time by stating the arguments against the idea of the inflammatory nature of epilepsy. We have now sufficient knowledge of the diseased states of the brain to enable us to recognise that affection when it occurs. Moreover, inflammation does not occur without leaving its traces behind,—and it is impossible that epilepsy could be an inflammatory disease, and leave behind it so little marks of such a disturbance of nutrition, as would leave it in the power of so able and so experienced an observer as Esquirol, to say—"we freely confess that pathological anatomy has hitherto thrown but little light upon the immediate seat of epilepsy." The records of cases of undoubted inflammation of the brain show that epilepsy is not one of its symptoms, whatever part of the brain may have been the seat of the inflammatory process.

It may next be asked, is epilepsy caused by a state of congestion of the brain? This is a favourite notion with many; nor can one wonder that it should be so, when we consider how exclusively of late years the attention of pathologists has been directed to the state of the solids, and how often they have failed to find any indications of morbid change, save such as are due to a greater or less amount of blood in the blood-vessels. It has been the prevailing tendency to look for congestion of blood, and to rest content with it as the cause of the phenomena during life, the observer all the while overlooking the important inquiry, as to the period of the occurrence of the congestion; whether it might not have occurred in the mortal agony,—whether, indeed, it could fairly be regarded as having taken place during life,—or whether it might not be a post-mortem appearance.

But what does morbid anatomy teach us on this point? Why, that congestion is far from being a constant appearance in the brains of epileptics,—that its presence is mainly influenced by the mode of dying of the patient,—that in a large number of cases there is rather a deficiency than a superabundance of blood in the brain,—and that when congestion of the brain does occur in epilepsy, it may be looked upon rather as the consequence of the paroxysm than as its cause, the paroxysm being such as, by the mechanical interference which it creates with respiration and with circulation, greatly retards the return of the blood from the brain—as from all other parts—to the right side of the heart.

Furthermore, it may be now confidently affirmed, as pointed out by experience, that a state the opposite to that of congestion—namely, a state of *anæmia*—is favourable to the occurrence of epilepsy; and the convulsions of children and those of lying-in women are frequently brought on from anæmia due to imperfect nutrition in the former, and to excessive floodings in the latter.

The following case—and my experience has supplied me with several similar—is a striking instance of the extent of disturbance likely to arise from great loss of blood:—

A married woman, aged 30, was admitted into King's College Hospital, in January 1849. Two years ago she had a miscarriage after a pregnancy of three months. In August 1847, she was delivered by instruments of a dead child. In June 1848, she again became pregnant, and, after having gone two months, she miscarried, without excessive hæmorrhage. From this time her health began to fail—she became low and desponding—and made no blood; looked pale and thin.

On the 28th of last December, having been some time in a state of great weakness, she suffered from giddiness of head, and became slightly delirious. For these symptoms she was bled from the arm, and had leeches applied to her head, and a blister to the back of her neck. The next day, the symptoms remaining unaltered, six leeches more were applied to her head. While these were yet drawing, she gave a slight scream, and fell forwards in a fit of convulsions, during which the orifice in the vein burst open, and a good deal of blood was lost.

On the 30th of December, while six

eeches more were being applied to her head, she had a second fit, exactly resembling the first, and during this the orifice in the vein in the arm again opened, and more blood was lost.

On the 3rd of January she had a third fit, which lasted about one hour, and on the following day she had two fits. She now became maniacal, but controllable, and in this state, exhibiting all the signs of extreme anæmia, she came into the hospital.

Here, then, is a remarkable instance in which a state of extreme anæmia — the practice of general and of local depletion — offered no protection against the epileptic state: might we not say that an opposite mode of treatment, one adapted to improve the blood both in quantity and quality, would, in all likelihood, have saved the poor woman from the fits of epilepsy, and from a prolonged state of chronic mania under which she afterwards suffered?

Dr. Marshall Hall attributes much of the phenomena of epilepsy to vascular congestion. He has put forward the following theory of epilepsy. He says:— "1. Some source of irritation, acting in a reflex or direct manner, excites the spinal system. 2. Contraction of certain muscles of the neck, compression of the veins, and congestion of the cerebrum, with cerebral symptoms—cerebral epilepsy—are the consequences. 3. Then follow laryngismus, with every formidable convulsive symptom, spinal epilepsy, and congestion of the encephalon in a tenfold degree, with all its dire effects on the intellect and on the limbs."

Admitting, as I do, the great ingenuity of this theory, I cannot accept it as a correct explanation of the phenomena of epilepsy, or as adequate to explain the various and complicated symptoms of that malady.

Without discussing any further the question whether congestion of the cerebral bloodvessels can excite the epileptic paroxysm (a question, I think, answered in the negative by all reason and experience), there are two points which need to be proved in the most unequivocal manner before this theory can be admitted as adequate to explain the phenomena of epilepsy.

The first is, that contraction of the platysma and of certain muscles of the neck can cause congestion of the veins of the neck, and consequently of the head. Upon this point I confess that I can come to no other conclusion than that the anatomical disposition of the platysma unfits it to act as a compressor of the veins of the neck. If by its contraction it exercises any influence upon the venous circulation, especially the deep-seated veins, it would rather tend to protect them from the pressure of the superincumbent tissues. When the platysma myoides is strongly contracted, the hollow of the neck is obliterated, the integuments are raised up, and they are rendered tense between the clavicle and the jaw. To effect such contractions of this muscle, which is not so completely under voluntary control as some others, requires considerable effort, and the simultaneous contraction of other muscles. This effort, by impeding respiration in some degree, tends more or less to congest the veins of the head and neck: but I have seen strong contraction of the platysma on both sides kept up for a considerable time without inducing any amount of congestion which would attract notice unless the attention was particularly called to it. In slight or partial contractions no such congestion occurs, and it is still less likely to take place in any contraction which might be caused by reflex action, in which there is no effort whatever on the part of the individual.

A second point, which needs proof, is the connection between *laryngismus* and convulsions. This connection, according to Dr. Hall's views, is so intimate, that the former is a necessary precursor of the latter. In other words, it may be said that convulsion of the laryngeal muscles must precede that of the other muscles. Surely such a view as this is untenable. There cannot be any necessary connection between the convulsion of the laryngeal muscles and that of the other muscles supplied by cerebro-spinal nerves, so that convulsions of the one should necessarily precede that of the other. All muscles are equally exposed to the cause which excites the paroxysm; if that cause excite only one side of the brain, the muscles on the opposite side of the body are thrown into convulsion. And although we sometimes find that one set of muscles will take precedence of another in convulsions, there is no constant rule to determine what muscle shall be first convulsed, and especially that precedence does not belong to the laryngeal muscles.

I have ascertained, by direct experiment, that general epileptic convulsions may take place when laryngismus, which is the chief cause of the impediment to the venous circulation, and of the subsequent cerebral congestion, cannot occur.

I looked for some poison which was capable of exciting epileptic convulsions. Although the Œnanthe crocata is stated by Toxicologists to have this power to a remarkable degree, I was unable to produce the effect in dogs with either large doses of the expressed juice of the root or with large quantities of a strong decoction of the roots. I therefore had recourse to Hydrocyanic acid, which developes the epileptic state in a very marked manner.

The first experiment was upon a large dog. A free opening was made in his trachea, so that inspiration and expiration were performed with the utmost freedom. The dog was then poisoned by Prussic acid. In a short time epileptic convulsions of the usual character, complicated with a good deal of spinal convulsion, ensued.

In the next experiment I proposed to divide the recurrent nerve on each side, and thereby to paralyse the constrictors of the glottis. Although the division of one of the nerves was not affected, the other was effectually cut across, and a large piece cut out of it. The voice of the animal was destroyed, and, as the muscles on one side were paralysed, it was obvious he was quite as unable to close the glottis completely as if the muscles were paralysed on both sides. Hydrocyanic acid was then administered, as in the first experiment, and very complete convulsions were very shortly developed, the eyes being very much affected, and all the muscles of the trunk and extremities.

The third experiment consisted in tracheotomizing a dog, and introducing a large tube into the trachea, which insured a greater freedom of inspiration and expiration than when there was only a simple opening. The administration of Hydrocyanic acid was followed by the same distinctly epileptic general convulsions as in the two former instances.

Undoubtedly in all these experiments, especially in those in which an opening was made in the trachea, there was less impediment to breathing, and less venous congestion; but, notwitstanding this, the epileptic state was fully developed under the influence of the poison. A free opening in the trachea, and the prevention of the consequences of laryngismus, did not prevent convulsions from taking place.

Thirdly. We may ask, is epilepsy due to an anæmic state of the brain,—to an imperfect supply of blood to that organ?

Although I cannot admit that epilepsy is commonly due to an anæmic state of the brain, still I must say that there are more facts in favour of this view than of the congestive theory, and that an imperfect supply of blood to the brain is very often associated with the epileptic condition.

I have already referred to cases in which epilepsy had supervened upon an anæmic state. These might be multiplied considerably, did time permit. What is particularly deserving of attention is the class of cases where convulsions ensue upon excessive uterine hæmorrhage,—cases long recognised by the most experienced obstetrical physicians.

A cachectic state, in which the red particles of the blood are only very imperfectly developed as to quantity, is very apt to accompany epilepsy. We see this frequently in hospital practice, in a very hard-working class of men — compositors in printing-offices, especially in those of newspapers. These men frequently work all night; and, to support them in their toil, they addict themselves to the frequent use of spirits or other fermented liquors. General nutrition fails: the red particles are imperfectly regenerated, and the patient becomes epileptic.

Patients labouring under chronic disease of the kidney are much more apt to become epileptic, if they are pale, and if their blood is deficient in its red particles.

House-painters, or others exposed to the contamination of lead, are apt after some time to fall into a fearfully cachectic state, of which a principal feature is the deficiency in the red particles of the blood. I have seen several persons, under these circumstances, become epileptic shortly before death, and, in fact, die in consequence of the violence of the epileptic paroxysms.

All these are striking instances to show how blood deficient in quantity,—deficient in one of its most important staminal principles (the others, perhaps, not being quite normal),—and, perhaps, contaminated by the presence of some foreign noxious principle,—is favourable to the production of the epileptic state.

Experimental physiology supplies us with very striking facts to show that an insufficient supply of blood to the brain is very apt to occasion epileptic convulsions.

Every one who has witnessed the slaughter of sheep, which is effected by dividing the great arteries in the neck, must have observed the strong convulsions which so frequently precede death in animals killed in this way. All animals killed by loss of blood exhibit the same phenomena precisely, and die with convulsions of a more or less violent kind.

Dr. Seeds many years ago performed a series of experiments to observe the phenomena accompanying the deaths of animals by loss of blood. In all the cases convulsions preceded death.

In Sir Astley Cooper's experiments, by the application of ligatures to the carotid and vertebral arteries, the functions of the encephalon seemed more influenced by occlusion of the latter than of the former arteries. A considerable portion of the blood of the carotids is distributed to the external parts, to the membranes, to the parietes of the cranium; and those branches which supply the brain anastomose very freely with the vertebral arteries.

When the vertebral arteries were tied or otherwise obstructed, the carotids having been previously tied, very serious symptoms ensued: a state of insensibility was induced, which frequently was accompanied with convulsions, affecting the muscles of the eye-balls, as well as those of the extremities. In one experiment the carotids of a rabbit were tied, without any material effect. In five minutes the vertebral arteries were compressed by the thumbs, the trachea being completely excluded. Respiration stopped almost directly; *convulsive struggles* succeeded; the animal lost its consciousness, and appeared dead. The pressure was removed, and it recovered, with a convulsive inspiration.

On a second compression of the vertebrals, similar phenomena ensued.

Three times more the compression of the vertebrals was repeated, with like result. On the fifth occasion, says Sir Astley, the result was the same—namely, suspended respiration, convulsions, loss of motion and consciousness.

These, surely, are symptoms very closely resembling those of epilepsy.

It is much to be regretted that Sir Astley's experiments on tying the jugular veins were not more numerous. Only two are recorded. In one, after ligature of both jugular veins, the respiration was reduced in frequency to about half the usual number for a few hours, and the animal recovered without any other untoward symptom. In a second, the same reduction in the frequency of the breathing ensued upon the application of the ligatures: for five days the animal seemed dull, and on the seventh day it became convulsed, and frequently rolled over, and lost its voluntary power and its sensation in a great degree. But these symptoms, it was proved after death, were due to the extravasation of a clot of blood in the left ventricle of the brain.

The application of ligatures to the jugular veins, so as to impede the return of venous blood from the brain, is evidently, so far as these experiments go, productive of less serious consequences than the cutting off the supply of blood to the brain.

But we do not need experiments to prove what an enormous extent of congestion the brain can bear without inducing anything like an epileptic state. Look at cases of old asthma, with dilated right side of the heart, and large jugular veins, into which the blood freely regurgitates at every systole of the auricle: witness, also, the excessive congestion which accompanies severe suffocative catarrh, chronic bronchitis, and some of the complications of phthisis which are attended with great dyspnœa. If congestion of the brain were the common or even frequent cause of epilepsy, that malady ought frequently to accompany the diseases above named: yet patients labouring under these complaints, although they often become comatose shortly before death, seldom exhibit anything like convulsions, nor anything of a genuine epileptic state.

I come, therefore, to this conclusion,—that while it is highly improbable that a state of congestion *per se* gives rise to the epileptic paroxysm, it is extremely probable that the opposite state, one of anæmia or of imperfect supply of blood, does frequently cause the complete epileptic fit, and that such a state is much more to be feared and guarded against by practitioners than the state of congestion, not only because its consequences are more serious and more persistent, but also because they are much less amenable to the remedies within their reach.

At the same time, this state of anæmia is not in itself the cause of epilepsy. We have too many instances of epileptics in whom no indication of an anæmic state exists, to allow the admission that the influence of anæmia operates in any other way than as one of the most potent disturbers of the nutrition of the brain; and we are therefore led to class it with other causes of disturbance which interfere with and derange the normal nutritive processes of the brain, giving rise to irregular actions of certain of its parts.

Having freely discussed the more obvious disturbances of the circulation in the brain which have been and are set down as productive of the epileptic state, it remains for me to develope a theory of epilepsy such as seems most in accordance with our knowledge of the physiology and of the pathology of the brain.

I would lay it down that epilepsy denotes a state of abnormal nutrition of the brain.

This abnormal nutrition shows itself in the unnatural development of the nervous force at particular times, in such a manner as to disturb the functions of the whole cerebro-spinal centre, but of the brain in particular.

These periodical evolutions of the nervous force which give rise to the complete epileptic paroxysm may be compared to the electrical phenomenon described by Faraday under the name of *disruptive discharge*.

We know that this phenomenon requires for its production, first, a highly-charged or polarized body, which, when it reaches a certain point of tension, may be made instantaneously, and with violence, to discharge its electricity to a conducter.

Thus the abnormal nutrient actions of the brain, in epilepsy, tend to produce a polar state of the particles of the Hemispheres, of the Tubercula Quadrigemina, and of the mesocephale, which, when it reaches a certain tension, discharges itself, and induces with great violence a rapid polarization of the neighbouring particles, involving in the general disturbance the medulla oblongata, the cerebellum, and the spinal cord.

In some instances the tension may be limited to the hemispheres of the brain,—then consciousness and intellectual action only are disturbed; either a comatose state is induced, which lasts for a certain time, or mania or delirium are produced. In such cases the state of tension may pass off slowly and gradually without any distinct discharge, and so the nervous matter may assume a state of equilibrium, without creating any serious disturbance of the other parts of the cerebro-spinal centre. In other cases the hemispheres and mesocephale pass quickly to the highest degree of tension, and a rapid discharge takes place, exciting the other parts of the brain and the spinal cord, with all the violence of the discharge from a highly charged Leyden jar, or the shock from the electrical organs of the torpedo or gymnotus.

The gradual and silent manner in which this state of tension is induced in the brain, and the absence of all appearances of mischief recognizable by our means of investigation in recent cases, the rapidity with which fit succeeds fit in the acute cases, leaving likewise no trace of organic mischief, denote that the peculiar state of the brain in epilepsy is brought on not by any change in the quantity of the blood, but by the accumulation of some material in the blood, which, acting on the brain as a poison, excites this polar state, and this disruptive discharge, and so escapes from the system, leaving the brain free from disturbance until a fresh accumulation excites a new paroxysm. The same comparison may be used here as I have already employed in speaking of other convulsive diseases. The nervous battery is excited by an abnormal fluid,—a fluid which causes it to develope the nervous force in irregular quantity, — a fluid which, when fully charged with its particular morbid element, excites a high degree of tension of the cerebral nervous matter, which can recover itself only by a discharge, which produces more or less serious disturbance of the neighbouring parts of the brain.

Under this view the infinite variety in the character and violence of the epileptic fits would be accounted for by variety in the quantity of the morbid material which contaminates the blood,—the poison which disturbs the normal actions of the brain,—by the different intensity with which it affects one part more than the other,—the comatose symptoms, being the more developed as the cerebral hemispheres are affected,—the convulsive symptoms, when the chief disturbance is in the mesocephale,—and, perhaps, also by difference in the quality,—the virulence—of morbid element.

This humoral doctrine of epilepsy is supported by a host of striking facts. The influence of certain poisons—as Prussic Acid and Œnanthe Crocata—in the production of artificial epilepsy, the exact counterpart of the disease as it affects the human subject, is one of the most important of these. Saillant, a writer in the memoirs of the French Royal Society of Medicine (ann. 1782-83), concludes a paper detailing some experiments on the artificial production of epilepsy, with these remarks:—"We are content with concluding that it is easier to produce an artificial epileptic paroxysm through the blood than by irritation of the brain and nerves." Saillant's experiments consisted chiefly in injecting air into the veins.

A second class of facts, bearing most strongly on this view of the nature of epilepsy, is the frequent connexion between this disease and imperfect eliminatory action of the kidney, a connexion which I have no doubt ere many years we shall find to be very much more frequent than is even now suspected.

Nay, a temporary functional suppression or deficiency in the secretory action of the kidney, would allow the urea, and perhaps certain other elements of the urine, to accumulate in the blood to such an extent as to exert a poisonous influence on the brain, and to develope the epileptic paroxysm. The fact, first I believe brought to light by Dr. Lever, that the urine of women who have suffered from puerperal convulsions is sometimes albuminous, suggests that in some of the patients who suffer this form of epilepsy the disease may be referred to defective action of the kidney. This point, however, has yet to be worked out, and when physicians come more generally to look for the causes of morbid phenomena in something beyond mere excess or deficiency of blood, we shall probably obtain some satisfactory elucidation of it.

A third class of facts favourable to this view is derived from the diseases confessedly humoral, and the paroxysmal character which they are apt to assume. I would allude more particularly to the effects of the paludal poison, and to gout. Under the influence of the former, we have periodical paroxysms almost convulsive in their nature. A severe fit of ague in its cold stage is not far from an epileptic convulsion. The marsh poison, whatever be its dose, shows its effects in regular periodical paroxysms; the poison accumulating in conjunction with certain nutrient changes in the blood, reaches the quantity necessary to produce a paroxysm only at certain periods. The introduction of quinine checks this regenerating or cumulative power of the poison, and ultimately kills it. In gout we have an analogous tendency to the accumulation of the poison so as to occasion paroxysms. The regular development of the gouty paroxysm at the spring and fall of the year in some individuals, and its frequent occurrence at short intervals for a certain time, as once a month or once in two months, are phenomena analogous to the periodical development of the epileptic paroxysm.

Lastly, we have the very important fact, that certain animal poisons, as that of small-pox, measles, scarlet fever, or even the poison of typhus, may, on their introduction into the system, produce epilepsy.

Of the *nature* of the morbid matter, which, by its accumulation in the blood, may produce the epileptic paroxysms, no conjecture can be formed in the present state of our knowledge. It may, perhaps, vary in different cases: in the renal cases, for instance, it may consist merely of certain retained elements of the urine. Of these, the experiments of Dumas and Prevost point chiefly to urea as the most highly poisonous; but I apprehend this point needs further investigation. In the ordinary cases we may assume that the morbid matter is some subtle agent, possessing properties allied to those of prussic acid, whose chemical nature may yet, in the progress of chemical analysis, be ascertained.

What are the sources of this morbid matter? I apprehend the most common source is the brain itself. The frequency with which epilepsy follows undue exhaustion of the nervous power, from anxiety, grief, long-continued thought, habits of intemperance—mental, as anger, rage, despondency,—physical, as the indulgence in ardent spirits or other fermented liquors. The influence, too, of mental shock, in the production of the epileptic state, must be regarded as denoting that direct disturbance of the nutrient actions of the brain under mental influence, may operate as a primary exciting cause of this malady.

Now all these causes tend directly to impair the nutrition of the cerebral matter. We have no difficulty in understanding that overwork or underwork (if I may use the word) of a muscle may impair its nutrition, and so weaken its powers. But we do not attribute this to an over supply of blood, or to an insufficient supply. The excessive or the imperfect exercise of the muscular force affects the tissue itself, impairs the nutrient changes which take place in it, disturbs the attraction between the blood and the tissue, and perhaps alters the nature of the material which is formed out of the effete particles, in what Dr. Prout calls the destructive assimilation of the tissues. Just in this way the nervous matter suffers in the first instance from excessive or perverted use, the nutrient changes are impaired, and the secondary processes of assimilation generate a material which becomes a source of contamination of the blood.

No doubt, however, there may be other sources of contamination,—the digestive organs, the sexual organs, the great glands,—which may not only generate morbid matters capable of contaminating the blood, but may, by the imperfect performance of their functions, weaken or otherwise damage the nutrient changes of the nervous matter, so as to make it more susceptible of the influence of any noxious agent, or to cause it to generate a morbid matter.

Where there is hereditary taint, the inherited tendency is to the generation of what I might call the epileptic morbid matter under the influence of any cause which may may disturb general nutrition, or impair the local nutrition of the encephalon.

Such is the theory of epilepsy which appears to me most consistent with the known facts of the clinical history of the disease, and with the general principles of physiology and pathology.

That it is sufficient to explain the ordinary cases where attack succeeds attack with more or less of periodical regularity, is obvious; this periodicity being explained partly by the periodicity of the normal actions of the brain, and partly by the re-accumulation after certain intervals of the morbid or poisonous matter. Nor is it inconsistent with this view that at the expiration of each of these periods the patient should experience not one, but a series of epileptic attacks in rapid succession, the number and violence of the attacks being determined by the quantity of the poison and its virulence, and, in some degree, perhaps, by the state of excitability of the nervous system.

Many instances occur where men have had but one epileptic attack during a long life. Are these cases explicable by this theory? Such cases may rank with the puerperal cases, or with the convulsions of children. They are due to some rapid change in general nutrition when the nervous system is in an excitable state. They are often caused by a debauch, excessive indulgence in the pleasures of the table, or of some other kind, which at once excites the nervous system and disturbs general and local nutrition.

An interesting question which I have found it convenient to postpone until now, is as to the validity of that distinction which I admit is useful for practical purposes, into *centric* or *eccentric* epilepsy.

Under the theory which I have just enunciated, all epileptic cases are strictly centric—that is, result from a cause acting directly upon the centre. But may not the cause originate at the periphery, and act upon the centre through incident nerves, affecting the brain through the spinal cord? To this question I think I must answer in the negative. Evidence is wanting to prove that the peripheral irritation of nerves is capable of exciting the epileptic paroxysm. You remember the remarkable conclusion of Saillant, which I quoted not long ago, "that it is easier to produce an artificial epileptic paroxysm through the blood, than by irritation of the brain and nerves." Then I may be asked, what becomes of the cases so generally admitted, in which epilepsy is caused by worms in the intestinal canal? in which, if you expel the worms, you cure the epilepsy. I am not prepared to deny the occasional association of worms and epilepsy, nor their connexion as cause and effect; but I would affirm that worms cause epilepsy not by direct irritation of the intestinal nerves, the spinal cord, and the brain, but by the disturbance of nutrition which they keep up. The mere presence of worms in the intestinal canal is an indication of deranged secretions there, and of a disturbance of its nutrition: worms do not flourish in a perfectly normal state of the intestinal canal. Therefore we may lay it down that there has been a disturbance of nutrition prior to the appearance of the worms, which is kept up and increased by the presence of the worms.

Another question connected with this subject appears to me deserving of consideration. Can permanent unchanging chronic disease of the encephalon or of the cranial wall, be regarded as capable of causing the epileptic fits? Take, for example, such a case as the following:—A man has been epileptic for many years of his life, and his malady has resisted various remedies. He dies, however, of some other disease. On inspection, the brain is found healthy, but about the centre of the falx there is a tumor as large as a small walnut. Has the tumor been the cause of the epileptic attacks in this case? I incline to say No to this question, because such tumors are of very slow growth, and we know that the brain adapts itself wonderfully to the extension of such morbid productions upon the space in which it lies,—because such tumors have existed without epilepsy,—because a cause in constant operation is not likely to produce an occasional effect. At the same time I think it must be admitted that a man with such a tumor is more liable to be epileptic under states of general or cerebral disturbance, than a man whose brain and its membranes are healthy, because the presence of such a tumor scarcely admits of the nutrition of the brain being perfectly normal.

Epileptiform attacks are apt to be produced by meningeal irritation, as I have already pointed out. Under frequency of repetition, and the consequent increased cerebral disturbance, these attacks may become epileptic: and this is the more apt to occur if there be any constitutional malady, — if the local mischief originate in any constitutional taint. Thus scrofulous deposits in the membranes will readily give rise to fits, at first epileptiform, and finally epileptic. And cases of the following kind are not uncommon:—A man contracts syphilis; some time afterwards, with or without other secondary symptoms, he gets periostitis of the tibia, or of some other long bone; at length he has an epileptiform attack, or it may be an epileptic fit; and now it is discovered that some part of the pericranium is painful, and there is good reason to believe that the dura mater is affected: there is periostitis within the cranium. Many of these cases do well under the judicious combination of iodide of potassium and mercury, or under the use of the former remedy only.

So, also, injuries of the head, proving after the lapse of a longer or shorter time injurious to some part of the osseous wall of the cranium, seem to cause epilepsy, and are more especially likely to do so if any derangement of general nutrition occur,—gout or struma, or the syphilitic taint. Perhaps in some of the cases epilepsy would have shown itself, even though no injury had taken place. How many hundreds of instances are there where injuries of the head, even of an extensive kind, have occurred, without a sign of epilepsy!

The terms *centric* and *eccentric* are so far useful as directing attention to the *source* of the depraved nutrition of the brain; but epilepsy is always the result of such depraved nutrition, and it is highly improbable that it can ever be looked upon as produced by reflex action—that is, by a peripheral irritation propagated to a centre, and exciting great irritation there, involving spinal cord, and motor and sentient nerves.

I shall conclude with a few remarks upon the treatment of epilepsy.

If much obscurity hangs over the pathology of this malady, we cannot wonder that our attempts to treat it have received so little encouragement.

One point of peculiar difficulty as regards the treatment of epilepsy arises from the uncertainty of the effects of remedies. Many of the anti-epileptic remedies produce no sensible effect on any of the great functions of the body: they do not purge, nor sweat, nor excite the kidneys. Under the use of the remedy the patient's fits become less frequent, less violent, and his general state improves. But it often happens that without any remedy fits become less frequent, less violent, and general health improves. Have we any means of distinguishing between what may be regarded as genuine effects of a remedy, and mere coincidences,—changes which our knowledge of the clinical history of the malady tells us may take place independently of the influence of any remedy?

In many instances I must confess I know no means of making this distinction. It is in cases where the fits are very frequent that we may most readily, and with greatest probability of truth, draw conclusions respecting the effects of remedies. If a patient have had for some time one or more fits daily in a confirmed manner; and if, shortly after commencing the use of a remedy, the fits diminish considerably in frequency and violence, or cease entirely,—this we may reasonably ascribe to the influence of the remedy. And this conclusion might very usefully be tested by omitting the remedy for a time, and resuming it: the test would be highly confirmatory of the conclusion, if, during the cessation of its use, unfavourable symptoms showed themselves, which, after its resumption, disappeared.

A good deal of reliance may be placed on the convictions of some patients themselves as to the good or bad effects of particular remedies. If the patient expresses a strong opinion respecting a particular remedy, the practitioner ought to be influenced by it, and more especially if he adheres to this opinion after the use of the remedy has been long continued, or if he expresses a strong desire to return to the remedy after it had been discontinued.

Hitherto the search has been for some remedy which would cure epilepsy as quinine cures ague, or even as iodide of potassium cures syphilitic periostitis;—something which, when introduced into the system, would kill or neutralise the abnormal matter which is ever being formed, or would stop its formation. This search, which has now been continued for so many years in vain, we must, nevertheless, not abandon. It may be that a remedy of this kind may yet be vouchsafed to us, nor can one conceive a more inestimable blessing for mankind. Among the vast stores of the vegetable kingdom, there may yet be discovered some subtle agent—perhaps some alkaloid—readily assimilable by the brain, which may exercise the beneficial influence so earnestly to be desired, and diminish or remove this dreadful scourge.

Hitherto, I say, our search for a specific against epilepsy has been in vain; for who will venture to say that, out of the long list of anti-epileptic remedies with which our materia medica supplies us, any one really deserves the name? Many of the mineral and vegetable tonics do good for a time: valerian has acquired a great name, and many authors of repute relate cases apparently cured under its influence; in the present day we are able to administer *valerianates*, in which valerianic acid (probably the active principles of valerian) is in combination with zinc, or iron, or quinine.

It is not my intention to enter into any comparison of the value of the countless number of remedies which have been at various times suggested for the relief or cure of this malady. I shall content myself with remarking that it is very important for the practitioner to provide himself with a good list of remedies, that he may not appear to his patient to be wanting in resources; and that, by changing the remedy from time to time, he may keep up the hopes of his patient, and secure his confidence. As Dr. M. Hall remarks, with great justice, "the confidence of the patient is a security against many baneful emotions, and time is gained for Nature to cure the disease." I would add this remark by way of precaution, that, in the employment of the various reputed anti-epileptic remedies, the practitioner should employ those chiefly which he knows will do no harm, and that he should abstain from, or use with great caution, such remedies as exercise a known effect on other functions, and which may perchance affect them injuriously.

Very lately, my friend Mr. Salter, of Poole, whose sound judgment and great experience give great weight to his opinions, has directed the attention of the profession to the virtues of the Cotyledon Umbilicus as an anti-epileptic. He has narrated one very striking case as having apparently yielded to the influence of the remedy. The best form for its administration is no doubt the expressed juice of the fresh plant, which may be given in ounce or larger doses two or three times a day; or in the form of inspissated juice, as now prepared by Mr. Hooper, of which Mr. Salter states that half a drachm is equivalent to an ounce of the fresh juice. I hope this remedy will be extensively tried: it is one of those which, if it do not cure, at least is not likely to exercise an injurious influence on the constitution of the patient.

I am not aware that any of the means proposed to check a fit, once it has begun, have been attended with success. With our present experience it seems to me clear that the best practice in the fit is to abstain from interference, every precaution having first been taken to protect the patient from injury. Bleeding in or after the fit is certainly fraught with great dangers, and the plan of pressing the carotids, proposed long ago by Dr. Parry, can clearly have but little influence as long as the vertebrals remain free, nor is it by any means certain that the stoppage of the circulation through them may not in many cases tend rather to increase the evil.

In the general treatment of epilepsy, the practitioner must ever keep in view the three following objects: first, to remove sources of irritation, of disturbance of general nutrition, and consequently of contamination of the blood; secondly, by hygienic and moral means, to promote a healthy frame of body and mind; and, lastly, to find, if possible, some means of preventing the access of the fits, with a view to breaking the habit of their frequent periodical recurrence.

I need not extend this already too long lecture by enlarging upon the various means by which peripheral sources of irritation or of contamination may be removed. It will be the duty of the practitioner to investigate with great diligence all the functions—digestive, sexual, that of the circulation, the skin, the kidneys,—and direct his special attention to such as may indicate a deranged state.

To enforce a good system of hygienic and moral rules, it is absolutely necessary that the practitioner should demand and obtain a complete control over his patient. He should regulate with the utmost precision the ingesta, both as to quality and quantity—the times of rising and of retiring to rest—the hours of sleep—the time of meals—the amount and period of exercise—the amusements—the nature and amount of study; and the aim of his hygienic system should be to invigorate the nervous system, and to promote by every means a healthy and vigorous nutrition: while that of his moral management should be to tranquillize the mind, to encourage hope, and to promote cheerfulness. It is from such a system, faithfully carried out and diligently enforced, that the greatest good may be anticipated for the epileptic patient.

To find some means of checking or of postponing the fit, is an object of great importance. In general, the nervous system and the mental functions suffer most when the fits are most frequent. If, then, the fits can be considerably reduced in number,—if, as it were, they can be kept at bay,—surely the patient cannot fail to be a great gainer.

Shortly after the anæsthetic powers of sulphuric ether became known in this country, and after I had satisfied myself, by the experiments which I referred to in a former lecture, of its great power in depolarizing the nervous centres, or preventing them from assuming a highly polar state, I determined to ascertain what influence its inhalation in the same manner as for surgical operations might have in checking the access of the epileptic paroxysm, or in diminishing the excitability of the nervous system. Although I have since learnt that about the same time it was tried in France, I was not aware of these trials at the time, nor have I since seen any satisfactory account of the results of them.

The first case which presented itself was one of epilepsy, in which the fits were preceded and followed by mania. The patient was a young girl, aged 17: the fits were of frequent occurrence,—twice a week, and she was subject to them for seven years. Within the last year the fits were accompanied by the maniacal state. This girl had been in a maniacal state for six days prior to her admission into the hospital: she was very violent, attempting to bite every one who came near her. She had even bitten herself.

In this case I administered ether on a sponge, holding it tightly over the mouth. The effect, to my great astonishment, and that of the bystanders, was instantaneous. Within a minute, noted by the watch, the patient fell off into a profound and placid sleep, which lasted eight minutes. She then awoke, and seemed disposed to be violent as before. It was necessary to administer the ether five times, after which prolonged sleep was produced. She slept well that night, and from this time became quite manageable and controllable: she continued for three or four weeks in the hospital, and although she had two or three fits there was no return of the maniacal state.

I have since had many opportunities of administering ether, and subsequently chloroform, in cases of epilepsy. The cases which I have selected have been those in which, as in the case just related, the paroxysms have been accompanied by mania, or in which the paroxysms have been of frequent occurrence—daily, several times in a day, once or oftener in a week. In these cases I have administered chloroform daily, often twice, sometimes three times a day, and always producing the full effect. I have not met with any instance of untoward result in some twenty-five cases; and the general conclusion at which I have arrived is this, that the frequent administration of the chloroform does no harm to the brain, and that it undoubtedly diminishes the frequency of the fits, and exercises a very marked control over the maniacal state.

I have given it in cases in which there could be no doubt of the existence of organic disease within the cranium, either meningeal or cerebral, and with decided benefit. One old man, who had all the symptoms of diseased cerebral arteries, with, perhaps, some amount of white softening, and severe epileptic fits, was distinctly the better for the inhalations, and became more intelligent, and his fits less frequent.

In puerperal convulsions, chloroform may be administered with advantage. I know of several cases which occurred in the practice of others, in which the fit yielded to the influence of the chloroform. My friend Dr.

Simpson, of Edinburgh, informs me that, among upwards of two hundred women whom he had delivered under chloroform, he has had no case of convulsions. In the epileptic convulsions of children also it may be used. Shortly after I began to use ether in epilepsy, my friend Mr. Ceeley, of Aylesbury, informed me that he had tried it with decided success in a case of infantile convulsions; and Dr. Simpson tells me that Dr. Robertson, President of the College of Physicians in Edinburgh, has administered chloroform in infantile convulsions with great success.

The administration of chloroform in epilepsy requires further clinical research. Upon this subject I am at present engaged, and hope, at some future period, to lay my results in a detailed form before my professional brethren. Perhaps some other anæsthetic may be found better suited to epilepsy than chloroform. I am not without hope that some anti-epileptic agents—valerianic acid or valerianates—may be more efficaciously administered through the inhalation of chloroform than by the mouth. Mr. Savory, of Bond Street, has sent me some specimens of valerianates held in solution by chloroform; but whether these substances will volatilise with the chloroform so as to admit of their introduction into the system in sufficient quantity, I have yet to learn.

I need scarcely remark, and yet I feel that I ought not to conclude the lecture without doing so, that chloroform must not be used without some careful precautions. One cardinal point is, that in its administration atmospheric air should be at the same time allowed to be freely inhaled: another point is, that the administrator should not be eager to obtain a rapid effect, although he should aim at obtaining a full effect; a third, that the recipient should always be placed, during the administration of the vapour, in the horizontal posture; and, lastly, the practitioner should abstain from administering it in feeble cases, where the heart is diseased or feeble, and the circulation languid or otherwise disturbed: and in all cases he should bear in mind that chloroform is a very depressing agent, and he should provide accordingly.

CLINICAL LECTURES
ON THE
PHYSICAL DIAGNOSIS OF PHTHISIS.

Delivered at the Hospital for Consumption and Diseases of the Chest.

By Richard Payne Cotton, M.D.

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Lecture I.

Explanatory introduction—Position of the lungs—Thoracic regions—Respiratory movements—Varieties of healthy respiration—Division of physical examination—General laws.

Gentlemen,—The prefatory remarks with which I shall trouble you will extend to little more than an explanation of my present object, which is merely to describe in succession the physical signs of pulmonary phthisis, and, as I proceed, to illustrate them upon some of the patients of this hospital.

I shall carefully avoid anything like a scientific explanation of the various phenomena we shall meet with, as it is not my purpose to give a description or history of auscultation, and other means employed in physical examination, but to point out their practical bearing upon the detection of phthisis; and I hope, before my task is completed, to convince you so strongly of their value, that you will confess that none who really desire to do the greatest amount of good possible in our profession, can neglect to study them.

I should be as sorry to be ranked with those who are in the habit of placing their chief, or perhaps exclusive, reliance upon physical examination, as with the opposite class, who fall into the error of altogether disregarding it: in my opinion each extreme should be equally avoided—in this, as in most cases, the "juste milieu" should be sought after; and that conclusion must be the most correct which has been arrived at through the co-operation of every sense and faculty which can be brought to bear upon the subject.

Whilst it is unnecessary to enter here into the anatomical structure of the thorax, or its contents, it is indispensable to have at the commencement a sound knowledge of the position of the thoracic viscera, the character of healthy respiration, and its peculiarities in different situations.

The apex of each lung ascends to the same level, which may be said to be about an inch and a half above the clavicles, differing, however, considerably in this respect, according to the height of these bones, and the length of the neck, but pretty generally corresponding with a horizontal line drawn just below the spine of the seventh cervical vertebra (vertebra prominens). Anteriorly, they descend to a point midway between the fifth and sixth costal cartilage, and in passing backwards are in apposition laterally with the 6th, 7th, 8th, 9th, 10th, and 11th ribs, covered by each to a decreasing extent, and protected by the last only for a short space close to its spinal attachment. For the convenience of description, the thorax may be divided into regions, as follows:—

REGIONS.

Anterior.
- Supra-clavicular,—above the clavicles.
- Clavicular,—upon the clavicles.
- Infra-clavicular,—below the clavicles to the 4th rib.
- Mammary,—from fourth rib, to base of lung.

Lateral.
- Axillary,—the region of axilla.
- Infra-axillary,—beneath axilla to base of lung.

Posterior.
- Supra-spinous,—above the spine of scapula.
- Infra-spinous,—below the spine of scapula.
- Infra-scapular,—below the scapula to base of lung.
- Inter-scapular,—between the bases of scapulæ.

In some of these divisions healthy respiration has peculiarities which it is necessary to remember, and will be spoken of presently. I need not refer to the mechanism of respiration further than in reminding you that it is performed chiefly by the diaphragm and abdominal muscles, assisted by a slight elevation of the ribs, by the combined action of which, the capacity of the chest is augmented in all directions. In tranquil respiration in men the diaphragm is principally concerned, the costal movement being scarcely evident to the eye, but in women the latter is increased, and the former lessened, in consequence, as I believe, of the restrictions to the natural movements which fashion inflicts upon them. In children the movement of the ribs is comparatively great, from the larger amount of their respiration, and the flexibility of their costal cartilages; whilst in old age, and particularly in the male sex from the rigidity of the cartilages, the breathing is chiefly abdominal. It appears that the chief service of the ribs is one of reserve, to be called into action during any increased effort of respiration; for whilst this is taking place, they may be seen to act to a much greater extent comparatively, than the diaphragm and abdominal muscles.

The lung itself takes but a small part in the respiratory act, being entirely passive during inspiration, but contributing slightly by the elasticity of its tissue to the force of expiration. What has been termed its resiliency, or the power it possesses of resuming its form after having been pressed upon, is due only to the elasticity of the air within it; for if a lung be entirely compressed, it will not regain its form unless blown into, which may be readily attested by those cases of hydrothorax, where the whole lung has been flattened against the vertebræ, and remains a compact mass, until by forcible injection of air into the bronchus it may be made to resume its natural dimensions. The muscular fibres of the bronchi are incapable of aiding the respiratory muscles, being endowed merely with the property termed "simple contractility," which can be called into action only by the presence of an irritant, as in the discharge of sputa.

The passage of air into the lungs is attended by a sound, the character of which is determined by the form and texture of the several parts: thus in passing onwards, it is said to be nasal, buccal, pharyngeal, laryngeal, tracheal, bronchial, and pulmonary, in succession. As the lungs are bad conductors of sound, if the ear be applied to any part of the thoracic walls with which the pulmonary tissue is in immediate contact, only the last of these (pulmonary) will be heard, and to distinguish the rest, it is necessary to listen to the vicinity of each part respectively. It happens, however, occasionally, that the pharyngeal murmur, from unusual loudness, or the high position of the clavicle, can be heard in the infra-clavicular regions, and from its resemblance to bronchial respiration might lead to an error in diagnosis; but in such cases a similar condition invariably occurs on the opposite side, and both can be made to disappear by directing the patient to breathe with the mouth widely open.

Wherever the larger bronchi approach the surface, or are separated from the parietes of the chest by a very small amount of pulmonary substance, the respiration will be bronchial. Much discussion has arisen as to the points where this occurs,—probably, from the circumstance that it varies in different individuals: in some it is found for an inch or more on each side of the upper portion of the sternum, and in the axilla; the only parts in which it is invariably met with, are—the interscapular region over the roots of the bronchi, and, (to a somewhat less extent,) the middle of the upper part of the sternum.

Pulmonary respiration is made up of two murmurs, inspiratory and expiratory: the former is a sound of a softly blowing and breezy character, slowly and continuously produced; the latter immediately follows it, and differs only in being of shorter duration, and less loud. The relative length of the two has been variously estimated, and, without doubt, varies considerably; but that proposed by Dr. Walshe is the most accurate: in it the entire respiration is represented by the figure 10; 5 of which are devoted to inspiration, 4 to expiration, and 1 to a pause before the next respiratory act.

Bronchial respiration is easily recognised by being entirely free from the softness of the pulmonary, and more or less harsh, loud and dry: its inspiratory and expiratory murmurs are of equal length, and slightly separated from each other, and both have a distinctly tubular character, which may be well imitated by blowing gently through a stethoscope.

The tracheal, laryngeal, pharyngeal, buccal, and nasal forms of respiration, vary in different persons, but have the common character of being louder, more dry, shrill, and blowing, and of longer duration, than the preceding: their two murmurs are of equal length, and divided from each other by a considerable interval.

But little practical benefit can result from anything more than a general knowledge of these latter sounds, and I shall trouble you no longer with them. Auscultation of the trachea, however, has been insisted upon by some writers; but I confess it has afforded me no assistance: for whenever that part is diseased, the symptoms are but too evident, and I doubt the possibility of learning its precise pathological state by the character of the tracheal sound.

It will be necessary to take a general survey of the means employed for physical diagnosis: but I shall endeavour to avoid unnecessary detail, by dwelling only upon those points in immediate connection with our subject.

They may be said to consist of—

1. Inspection.
2. Application of the hand.
3. Mensuration.
4. Percussion.
5. Auscultation,

the relative value of which in the detection of phthisis, I shall endeavour to point out.

In connection with each of these, it is important to recollect the following rules:—

1, *a.* In a well-formed healthy chest, there is no visible difference in *the form of the two sides.*

b. There is no relation between the dimensions of the upper and lower parts of the same side.

c. During ordinary and forced respiration, the motions of the two sides are equal.

d. In angular curvature of the spine, the movement is the same on both sides; but in lateral curvature the side on which the convexity exists, exceeds the other in size and extent of motion.

2, *a.* The amount of vibration communicated to the hand placed lightly on the chest during speaking or coughing, (vocal or tussive fremitus) is subject to variation, but is always greater on the right than on the left side, and before than behind.

b. It is more distinctly marked in thin, than in fat or muscular persons.

3, *a.* It is rare to find a chest which, on careful measurement, does not exhibit a slight difference in the two sides; the excess being generally on the right, but in left-handed persons on the left.

4, *a.* Percussion is the more clear where the respiration is the most audible—viz. at the apices than at the bases of the lungs, and before than behind.

b. One side strictly corresponds in resonance with the other, except at the point where the heart touches the thoracic walls.

c. The natural resonance varies in different individuals, frequently ascribable to varying thickness of the walls of the chest, but often to causes difficult to determine, and arising from individual peculiarity: hence, as there is no precise standard of comparison, it is necessary to compare one side with the other, and at corresponding points.

d. Percussion between the ribs will yield a clearer sound than upon them: hence, the pleximeter should be placed in corresponding parts on each side, with regard to the situation of the ribs.

e. During calm breathing, the chest is at all times equally resonant; consequently percussion may be usually performed without reference to the period of the respiratory act.

5, *a.* There is a somewhat greater intensity of respiration at the apices than at the bases of the lungs, and at the anterior than posterior parts; but always an equality in this respect in the two sides.

b. Respiration is modified by age: in children it is louder and more frequent than in adults, and in old age the inspiration is weak and short, whilst the expiration is much prolonged.

c. In some persons the respiration is naturally weak; whilst in others, under precisely similar conditions, it is equally loud and distinct—consequent upon some individual peculiarity; but the audibleness of the breathing is greatly dependent upon the thickness or otherwise of the thoracic walls.

d. Every variety is met with in the length and loudness of expiration: it never exceeds four-tenths of the whole respiration, and may not amount to one-tenth; in many cases it is perfectly inaudible even during forced breathing, and when the other murmur is very loud.

e. The resonance of the voice (bronchophony) is generally greater throughout the right than the left lung; but constantly so in the infra- and supra-clavicular regions.

Original Communications.

CONTRIBUTIONS TO PATHOLOGY.

By J. Black, M.D.

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[Continued from page 809.]

Case XX.—*Phthisis—Intense Tuberculosis—Fatty Kidney.*

J. D., male, æt. 35, three months in hospital: died 21st January, 1846.

Insp. cad.—Corpse much emaciated, no anasarca.

Chest.—Right pleural sac contained much air; the lung contracted, and covered with dense old bands and sheets of former serous inflammation, which covered nodules of tubercles; no perforation discovered. The entire lung in the third stage of tuberculosis, one large vomica at top, and numerous smaller ones throughout. Left adherent to the costæ; upper lobe had numerous vomicæ, with a few parts crepitous. Weight of both lungs 4 lbs. 5 oz. Heart, weight 10 oz., normal in structure. Spleen, small, but natural.

Kidneys.—Weight 12 oz., granular in the cortical parts and between the cones. Microscope showed many oil-ovules. Analysis by ether gave twenty per cent. of fat in the cortical part.

Liver.—Weight 2 lbs. 15 oz., mottled, buff or dark red, smooth, firm, naturally sanguine, portal venous hyperæmia. By microscope, rare and minute oil-ovules; biliary cells well marked. Not any fat from boiling or ether.

Case XXI.—*Phthisis—Intestinal Tympanitis.*

J. M., male, æt. 27, in hospital three months: phthisical symptoms mild and alleviated, but was attacked ten days before death with severe dyspnœa, great præcordial and hypochondrial oppression, tumefaction of abdomen and thorax, respiration entirely thoracic, little urine: died 1st February, 1846.

Insp. cad.—Corpse not much emaciated, abdomen swelled, thorax elevated, and very resonant.

Lungs.—Universally glued to the costæ by old, firm, very strong and thick bands and laminæ, difficult to separate, but no air nor fluid in any part of the pleura. Upper lobe of both lungs in first stage of tuberculosis, with a small vomica in the left. The rest of the lung sub-crepitous, but dense, bloody, with congestive pneumonia; weight of both, 2 lbs. 10½ oz.

Heart.—12¾ oz., structure normal, mitral valves very patent, with granular thickening on their edges. Spleen and kidneys normal. Stomach half full of grumous fluid, with some food; mucous coat soft, particularly near the cardia, with submucous infiltration. Colon and small intestines empty of any fæces, but enormously distended with flatus, and the diaphragm much compressed upwards, and confined to the chest.

Liver.—Weight 2 lbs. 10¼ oz., livid and mottled externally, bloody on section, portal venous hyperæmia, lobuli distinct, and it may properly be called *nutmeg* liver. By microscope, hepatic cells normal, with average oil-ovules in them.

Case XXII.—*Phthisis—Kidneys granulated—Fatty liver.*

J. S., female, æt. 27: died 14th Feb. 1846.

Insp. cad.—Corpse much emaciated: *lineæ albicantes.*

Lungs.—Both adherent generally to the costæ, and the lobes to each other; both in the second and third stage of tuberculosis; a large vomica in each of the upper lobes; the middle and lower beset with crude tubercles and interspersed pneumonia.

Heart.—Weight 8 oz., pale; 4 oz. of fluid in the pericardium. Spleen normal; so were the stomach and intestines exteriorly.

Kidneys.—Elongated, pale, mottled, incipient granulosis. By microscope, some oil-ovules; *tubuli* held much *epithelia*, and the *corpora Malpig.* were exsanguine. Uterus normal.

Liver.—3 lbs. 4½ oz., capsule smooth, buff coloured. On section, firm, a little greasy, great hepato-venous hyperæmia; lobuli very distinct, and running in chains with each other. By microscope, hepatic cells well defined, many oil-ovules. By analysis, 3·5 per cent. of margarine oil.

Gall-bladder.—A calculus of cholesterine, the size of a nut.

CASE XXIII.—*Phthisis—Hypostatic Pneumonia—Chronic Pleuritis.*

J. S., female, æt. 27: died 16th February, 1846.

Insp. cad.—Corpse well formed; not much emaciated.

Lungs.—Adherent on both sides; the pleural connections displaying several dense fibrinous laminæ; general and advanced tuberculosis in the upper lobes, with hypostatic or congestive pneumonia in the lower ones.

Heart.—Weighed 11 ounces, normal in texture; 5 ounces of serum in the pericardium, without lesion of the serous lining.

Liver.—2 lbs. 13 ounces, smooth, firm; left lobe very thin.

On section, whitish buff, portal venous congestion, but florid; lobules well defined with the intra-lobular veins.

By microscope: hepatic cells normal; few fat ovules.

Uterus.—*Os* engorged, and also the ovaries.

CASE XXIV.—*Phthisis—Tuberculosis in all its stages—Pneumonia.*

T. P., male, æt. 26: died 1st March, 1846.

Insp. cad.—Corpse slightly emaciated.

Lungs.—Right weighed 2 lbs. 6 ounces; left, 3 lbs; in the upper lobes of both, vomicæ; in the middle one, purulent tubercles; and in the lower of both, disseminated tubercles, interspersed and surrounded with recent pneumonia, and with much frothy serosity throughout. Inflammatory redness, and much muco-purulent secretion, in the bronchi; pleural adhesions in both sides.

Heart.—Normal, but studded near the apex with a beautiful, free, and white foliation of soft lymph.

Spleen.—Brick red, soft, normal in size; kidneys normal; stomach and intestines normal; gall-bladder normal.

Liver.—Weighed 4 lbs., smooth externally, pale like, with faint mottling, On section, faint red, hepatic venous congestion, with lobules well developed. By microscope, oil ovule normal.

CASE XXV.—*Phthisis—Ulcers in the Ileum.*

A. D., a male, æt. 56: died 7th April, 1846.

Insp. cad.—Corpse well formed; not much emaciated.

Chest.—No adhesions in either side; lungs weighed 8 lbs. 2 ounces; the pleura sound, smooth, and free; tubercles granular, miliary, and pisiform, but surrounded on all sides by pneumonic phlogosis in the first stage: no hepatization: two small vomicæ in the upper lobes.

Heart and liver normal; spleen round and dark purple; kidneys nearly normal; lower ileum beset with two ulcers; transverse, elevated with fungous edges and granulated bases, one of which had just penetrated the peritoneal coat, but no extravasation.

CASE XXVI.—*Phthisis—Vomicæ—Kidneys tuberculated.*

M. D., a male, æt. 17, three weeks in hospital: died 18th July, 1846.

Insp. cad.—*Chest:* general pleural adhesions, and in the left sac 8 ounces of serum. Lungs: right contained cavernous vomicæ in the two upper lobes; the lower lobe hyperemiated, with tuberculous granules and infiltration; left lung in second stage of tuberculosis.

Heart.—Rather small, with much fluid in the pericardium.

Spleen.—Rather large, dark purple; kidneys normal, but with tubercles, bead size, interspersed in the parenchyma.

Liver.—Large, soft, lake colour, and normally vascular. Microscope showed no fat ovules, but hepatic cells very perfect, having nucleoli more obvious than before witnessed.

CASE XXVII. — *Phthisis—Cicatrized Vomica—Ulcerated Ileum.*

C. R., a female, married, æt. 28, in hospital three months for phthisical symptoms and diarrhœa: died 17th August, 1846.

Insp. cad.—Corpse much emaciated; no œdema.

Lungs.—Right adherent to the costæ on the upper and anterior aspect, the upper lobe converted into a large circular sac, equal to the holding a large orange, having a dense and firm envelope of fibrous pulmonic tissue, with much surrounding tuberculization and inflammatory hardness. Interior of the sac smooth, membraniform, velvety, and as if cicatrizing; no ragged nor ulcerated surfaces, but smeared over with a semi-purulent mucus. The other lobes beset with very rough miliary tubercles; the tissue crepitous, but spongy. Left: a small vomica in upper lobe, and a few granular tubercules dispersed throughout the other lobe; pervious, subcrepitous; no adhesions.

Heart.—Very small; spleen large, but firm; kidneys natural.

Liver.—Normal. Ileum: several of the Peyerian patches tinged, softened, and ulcerated; the mucous coat in general much softened, and diffluent in many parts.

Uterus.—Small, but beset posteriorly by a soft creamy tubercle.

CASE XXVIII.—*Vomica—Granulated Kidneys.*

E. H., a male, æt. 32, had been in hospital once for a long period before last admission, which was two months before death, when he re-entered with acute psoriasis, diarrhœa, tertiary syphilitic eruptions, with a sinuous ulcer in the groin, which last soon healed, while his other complaints were much mitigated, but he gradually sunk under anæmic cachexia, and died 3rd Nov. 1846. Urine always albuminous.

Insp. cad.—Corpse emaciated; cartilages of ribs soft, and the ribs easily bent and broken.

Lungs.—Slightly adherent; right natural, spongy, without blood; left lower lobe dense, with grey hepatization, surrounding a vomica one and a half inch in diamater in the posterior part. No tubercles in either tungs; bronchial lining soft and vascular, with some dilatation in the secondary bronchi. Heart, soft, but normal.

Liver.—Large; weight, 5 lbs. 9 oz.; red buffy specks of soft lymph on the peritoneal coat. On section, firm, a little greasy, very vascular throughout; portal veins large; texture condensed, and somewhat fleshy.

Kidneys.—Both uneven and granulated, with great capillary arborization; left much contracted, and in the third stage of degeneration. Analysis produced only the smallest indication of fat; microscope showed cells and granules.

Omentum.—Covered all the intestines, but diaphanous.

Intestines.—Exteriorly normal; thin and pellucid; the whole ileum showed a wasted mucous coat; no abrasions nor ulcerations, but a few dark nodules between the coats, which enclosed each a cyst of creamy tubercular pus in their centres.

Stomach and spleen normal; not inwardly inspected.

CASE XXIX.—*Phthisis — Vomicæ— Enlarged Liver.*

W. B., a male, æt. 40, died Nov. 10th, 1846.

Insp. cad.—Corpse much emaciated; abdomen full.

Lungs.—Adherent: right, small vomicæ in the upper lobes, with ambient tubercles; pneumonia in the lower lobe; left, a putrescent vomica and general tuberculosis.

Heart.—Normal; so was the spleen, but small.

Kidneys.—Small, corrugated; albuminosis in first and second stages.

Liver.—Large, reaching down to the right iliac region and the umbilicus; weight, 5 lbs. 6 ounces, dark and buffy, adherent to the peritoneum and omentum. On section, mottled, dark, and buffy; coarse, intralobular hyperæmia. Fat ovules general under the microscope.

CASE XXX.—*Phthisis — Vomicæ— Chronic pneumonia and Pleuritis.*

M. K., a female, æt. 52, about two years in the hospital, with oppression of the chest, and occasional dyspnea; cough; copious continued expectoration, white, subyellow, and purulent; and for some months before death her sputa were dark or bloody, grumopurulent, and in enormous quantities; bowels irregular, with much general pains; died 7th December, 1846.

Insp. cad.—Corpse greatly emaciated.

Lungs.—Right, large, some emphysema, subcrepitous, but with segregated grey hepatization; black nodules; a few tubercles and small vomicæ: left, closely adherent and coalescent with the ribs, and nothing left of the lung but a firm disorganized mass, the size of the fist, with pus in the upper joint. This side was contracted.

Heart.—Hypertrophied on the left side, but all enlarged; right venous ostium very wide; valves normal, but the aorta thickened, enlarged, and atheromatous.

Liver.—Very large, smooth, friable, decidedly fatty.

CASE XXXI.—*Cancer of the Right Lung and Sac.*

M. M'W., a female, æt. 43, had been in hospital three months, with general cachexia, cough, bloody expectoration, severe pains, and occasionally much dyspnœa.

Six weeks before death, a firm inelastic swelling appeared above the right clavicle, as if emerging out of the chest; the part was hot, reddish, and painful; much hæmoptoe; increased dyspnœa, and general fever. In a few days the tumor more distinct, and the veins of the neck, shoulder, and right breast, became swelled, turgid, and extensively anastomosed. Hæmoptoe at length ceased; tumor subsided a good deal, and deglutition, once difficult, became easy.

She died quietly, 28th January, 1847.

Insp. cad.—Body warm on the 29th; not greatly emaciated.

Chest.—Ribs adherent on the right side to the lung, which was densely hypertrophied, and half filled with cancerous tubera, opaline, white, with depôts of creamy gelatiniform matter; parts in a state of grey induration; no pus nor tubercle.

Left Lung.—Large, natural, and crepitous.

Heart.—Large, normal in structure. A large schirrous mass, the size of two fists, beset the upper aperture of the right thorax, firmly adherent to the right side of the cervical vertebræ, and enfolding all around the arch of the aorta. The subclavian vein was plugged up by fibrinous coagula, and compressed by the tumor.

Liver.—Large, dark, and hyperæmiated.

Kidneys.—Normal in structure, but very unequal in size.

CASE XXXII.—*Hypostatic Pneumonia. Renal Cysts.*

J. R., female, aged 72, one week in hospital: died 6th of January, 1846.

Insp. cad.—Fair, embonpoint, adipose tissue normal, lower extremities œdematous.

Lungs.—Old adhesions in both sides; the anterior point of both lungs normal, subcrepitant, posteriorly both in a state of congestive pneumonia with much serosity; no tubercles. *Heart* large, natural in texture and valves. Spleen very small, but natural. *Liver,* weight 2lbs. 3 oz., smooth, mottled, and cleft posteriorly into four parallel lobules, with deep sulci between; no subjacent disease nor contraction, but the apparent result of continued pressure from the ribs, or being congenital; texture normal, but vascular, with deep portal venous congestion; a few oil-cells only discerned. Gall-bladder organically contracted round a calculus of cholesterine the size of the largest filbert; the coats thin, and adherent to the calculus. Hepatic and vesical ducts pervious. *Kidneys:* each weighed 6 oz., normal in tissue, but deeply vascular. The right had two cysts attached to its periphery, of the size of a pigeon's and a sparrow's egg respectively, each filled with an amber-coloured urinous fluid, as tested for urea. The abdominal aorta was rough, irregularly thin and friable, with atheromatous films and laminæ.

CASE XXXIII.—*Phthisis—Vomicæ—Fatty Liver.*

G. S., a male, æt. 50, three months in hospital, and had a fair appetite till a few days before his death, which enabled him to take a generous diet, with wine and porter. He had seldom any diarrhœa. Died 7th January, 1846.

Insp. cad.—Corpse much emaciated.

Lungs.—Both adherent: the left had three vomicæ in the upper lobe. In the similar lobe in the right, a very large sacculated vomica, larger than the first, covered deeply over with dark grey puriform mucus, beneath which the surface was rough, scabrous, and intersected by isolated, contracted, and abraded blood-vessels, without any hemorrhage; the remainder of both lungs was in the second stage of tuberculosis. Heart normal, but extra effusion in the sac. Spleen small and firm. Stomach and intestines normal. Kidney, normal but hyperæmiated. *Liver,* weight 4 lbs. 8½ oz., smooth, large, somewhat greasy on section; hepato-venous hyperæmia, surrounded by pale buff. By microscope, much oil in the hepatic cells, and free. By boiling and ether the proportion of margarine was 10·5 per cent of the mass. Gall-bladder, half full of watery bile.

CASE XXXIV.—*Hypostatic* or *Athenic Pneumonia. Fatty Liver.*

M. F., a female, æt. 29, in hospital three weeks: died 13th January, 1846.

Insp. cad.—Corpse emaciated; adipose moderate in the abdominal parietes.

Lungs.—Slight adhesions on the left side to the costæ, and of the lobes to each other. In the right side costal adhesions only. A few white exudations of lymph on the inferior surfaces of both, but soft. Both lungs quite *free from tubercles*: crepitous, except at the lower and posterior parts, which were congested; pneumonia, with red hepatization. No vomicæ, no pus in bronchi, and the weight of both 1 lb. 11 oz.

Heart.—Small, but normal.

Liver.—Weight, 4 lb. 8 oz., large and reaching over the whole intestines to the left iliac region, and across below the umbilicus; smooth, pasty-looking, and pale buff in colour. On section, firm, not friable, homogeneous throughout, with four small sulci on the surface behind. Hepatic veins very visible, with little portal vascularity. Sections buoyant in water. By microscope, cells largely distended with oil, and analysis gave 23·1 per cent., equal to 16·63 oz. for the whole liver.

Gall-bladder.—Large, and embedded in a deep hollow behind the anterior margin of the liver: was full of ropy bile.

Spleen and *Uterus.*—Normal and healthy.

Kidneys.—Both weighed 10 oz., in a state of proto-granulosis. By microscope, oil-cells normal, but tubuli loaded with epithelium.

Intestines.—Contracted, and glued together in many places by livid lymphous exudations of some standing; some of them were white, and softer than others, but no parietal peritonitis. Internally, not examined. The omentum provided with little adipose fat.

Remarks on the foregoing Cases.—So far as the pathological statistics of the above cadaveric cases lead to a numerical result, there were fifteen males and nineteen females, and the average age of both sexes was 38·5 years—the youngest seventeen, and the oldest seventy-two. Of the whole number, excluding the cancerous instance, twenty-three had vomicæ in the right lung, along with or without vomicæ in the left; while twenty had vomicæ in the left, with or without the same in the right. Pleural adhesions were in twenty cases in the right side, along with or without adhesions in the left; and twenty-four in the left, with or without the same in the right. In the right side, however, there were adhesions exclusively in four only, while in the left there were eight instances. In the whole, the heart exhibited lesions in six cases; there was *margarosis*, or fatty liver, in nine; lesions of the intestines in nine; altered or granulated kidneys in fifteen; and lesions of the uterus in four cases. As the cases are far too few, and perhaps somewhat isolated in their character, we shall not attempt to form any general deductions from them, as, in so doing, a reference must be made, by way of comparation and collation, to the far more complete pathological records that exist in our medical literature. We shall, therefore, limit our remarks to a few special observations.

In the first place, we may inquire from the cadaveric appearances what was the immediate lesion that led to the fatal event in these phthisical cases? It may be seen, that though a very advanced stage of tuberculosis had taken place in many, even to vomicæ usurping large portions of the lungs, yet these grave lesions were never found to constitute the exclusive cadaveric phenomena, as if, by the waste of blood and the tissues, they of themselves had spun out the thread of life. In addition to these essential lesions, we find other elements, even confined to the chest, brought into the morbific category, and the chief of these is some form or stage of pneumonia and red hepatization. This epicrasis seems to step in, where it did not previously more or less exist, in the exhaustive stages of the disease, and so, by suddenly congesting and infarcting the remaining normal parts of the lungs, a gentle asphyxia closes the scene. How this feeble yet effective phlogosis is in these cases occasioned is not so easy to determine, for it often takes place under good hygienic and medical care. I am inclined to attribute it chiefly to two causes, either separate or conjoined. The one seems to arise from that reaction, however feeble, which enervation is apt to induce, when the capillary system is losing its tonicity, and is easily thrown into automatic phlogosis or congestion from the least disturbance, and especially into such lax tissues as that of the lungs and mucous membranes. The other antecedent seems to be repletion of the vascular system, from the appetite and primary assimilation continuing relatively good, while the capacity and the functions of the lungs are daily diminishing and deteriorating. Enervation and relative hyperæmia will thus likely result in reaction, which, in the already restricted condition of the lungs, is death. During my five years' attendance at this hospital, I was led to think that the latter mode was the one that principally anticipated the fatal event, in spite of much care as to diet. Many of the cases of phthisis that were received into the wards were from the out-door poor, who had been ill-lodged, clothed, and scantily fed. Their systems were in an enervated and anæmic condition, without any marks of phlogosis about them; but when they had for a little enjoyed a good warm bed and rest, but with a low or very moderate diet, improvement seemed to take place, and the appetite and strength to revive. This was not only deceitful, but dangerous; for symptoms of vascular reaction often followed, which, when subdued, only weakened the system, but it more frequently was the inevitable precursor of death, from the enfeebled powers of the system rendering vain all counteractive measures. Of the lesions of the heart, it will be seen that there were none of a very prominent character, or which led to the immediate cause of death. The weight of the largest heart was 12¾ oz. in a male, Case XXI., which also showed undue patency in the mitral valves, and the remains of previous endocarditis. Of the nine cases of phthisis that were accompanied with fatty liver, the largest amount of fat oil, or margarine, was found in Case XV., which was equal to 22 per cent. of the mass of the liver, in which case there were extensive tuberculosis of the lungs. This degeneration of the liver has been alleged by Louis, Andral, and some chemical pathologists, to be more or less a constant concomitant of advanced phthisis, from the carbon and hydrogen that fail to be extricated from the system by the lungs, in their diminished capacity and impaired function, being necessarily thrown upon the liver in the shape of fat and oil; but it may be shown that several of these cases of true phthisis are not attended with this epiphenomenon; and other cases devoid of tuberculosis may be brought forward, wherein fatty degeneration has proceeded to a great extent. Confining our survey and proof to the cases before us, we have only to instance the 34th, or last case, where the amount was 23·1 per cent.—equal to 16·63 oz. in the whole liver, and where no tubercles or vomicæ could be detected. The enlargement in this and similar cases of the liver, makes us, at first aspect, wonder that the bulk and weight of the organ do not occasion pain or uneasiness to the patient, and that the outline of the enlarged viscus is not more evident to touch and palpation. But when we consider that the specific gravity of the fatty mass is much below that of the normal organ, and that the fatty oil is, in the living state, semi-fluid, as it contains more or less of olein, which, at the temperature of the body is liquid, and even the more consistent part, the margarine, easily melts at 116°. We see, therefore, if we were even scrupulous in our diagnosis, that it is not always easy to detect the fatty degeneration during life, either from the subjective or objective symptoms. In the case here cited, there was much reason to suspect habitual intemperance during life.

Of the nine cases of lesions of the intestines, follicular ulceration and abrasion of the mucous tunic were their general character, and the patches of Peyer were rarely affected; contrary to what occurs in some typhoid fevers. There were perforations in two cases only, but no extravasation, showing that if not cadaveric, they took place shortly before death. The case of enlarged or pouched duodenum was somewhat singular. The walls were softened and but slightly phlogosed, and there was no stricture, no obstruction towards the jejunum. The patient had no special symptoms, but an exhaustive diarrhœa, and occasional vomiting. The alteration might have arisen from impaired tenacity in the duodenal fibres, if it was not partly congenital. The fifteen cases of altered kidney comprehended the principal shades of granulosis or albuminosis, from the uneven and adherent capsule, the cortical degeneration, down to that of the conical structure; and as far as these cases go, any abnormal deposit of fat or oil could not be detected by either the microscope or by boiling, except in Case XX., where the fat was found to be 20 per cent., while there was no abnormal quantity in the liver. Granules, a few oil-cells, and tubuli obliterated or stuffed with epithelia, were the chief phenomena.

The Case XIX. of formerly ruptured uterus is worthy of remark; as the accident, thirteen years previously, and her having had since living children, were well authenticated by the medical gentleman who then attended her.

[To be continued.]

ON THE CONNECTION BETWEEN NERVOUS SYMPTOMS AND THEIR EXCITING CAUSES.

By Richard Rowland, M.D.

The connection between nervous symptoms and their exciting causes must be regarded as still obscure in many points. The brain itself often suffers seriously in the progress of disorders of other organs, and these secondary effects on the cerebral functions sometimes constitute the principal danger. The valuable researches of Mr. Arnott have removed some of the obscurities attached to this subject, by proving that external phlebitis may lead to the deposition of pus in internal parts; and on this principle some cases of brain disease, consecutive to external injuries, may be accounted for. I now wish to direct inquiry to another mode in which remote irritations are apparently transmitted or reflected on the brain through the medium not of the vascular system, but of the nerves themselves. I will presently cite cases which at least suggest the probability that morbid processes involving the peripheral extremities of nerves, may excite disease in their central organ, in which the law of cross-action is observed as in palsy, but in the inverse course; a wound or sore on one side of the body occasioning disease of the opposite cerebral hemisphere.

My attention was first directed to this inquiry by the following circumstance:—A hemiplegic patient attributed his attack to the drying up of an ulcer, the remains of which were still perceptible in the palsied extremity. Supposing that there was any real connection between the brain disease and the external irritation, the impression must have been conveyed to the opposite cerebral hemisphere. Upon turning to the best authors on affections of the brain, I found many cases where it is incidentally mentioned, in the history of paralytic patients, that there had been an external wound or sore, but without defining their precise seat. Such cases are of course of no avail in regard to the present question, but in those now subjoined the necessary facts are given, the seat of the external irritation, as well as that of the brain lesion, being distinctly mentioned. The cases that I have hitherto met with are too few to establish a principle, but it is curious that they all accord in respect to the point in question, the external sore or inflammation, and the brain disease, being on opposite sides of the body. I have merely extracted the facts that bear on the present enquiry.

Abercrombie—p. 175.

Scrofulous sore on the left arm.	A tuberculous mass, surrounded by softening, in right hemisphere.

Abercrombie—p. 178.

A man had a tumor extirpated from behind the angle of the *left* jaw, by which the nerves on that side of the face were injured. Six months afterwards, fatal cerebral symptoms.	In *right* hemisphere a tubercle, surrounded by purulent matter. Increased vascularity and softening in its vicinity.

Lallemand—*Récherches sur l'Encéphale*, p. 108.

A soldier received a wound in the right shoulder, followed by aneurism of the axillary artery. Sudden attack of *right* hemiplegia.	A "foyer" in the *left* lateral ventricle. The surrounding substance injected and hardened. The ligature applied to the artery had embraced branches of the axillary plexus.

BRIGHT'S *Reports*—p. 168.

A girl had a whitloe on the finger, with abscesses in the axilla and fore-arms. After death, the fore and middle fingers of *right* hand were found filled with pus and blood, and in the right fore-arm and thigh there were other abscesses.	In *left* hemisphere of the cerebellum a portion completely softened.

DURAND FARDEL—*Traité du Rammollissement du Cerveau*, p. 28.

A woman, aged 45, was bled for symptoms of heart-disease. The arm became swollen and painful. Cerebral complication came on, and she died. Cellular tissue of *right* arm swollen and friable.	Red softening of the left cerebral hemisphere.

It is not my intention at present to comment on these facts. If they are supported by others of a similar description, their practical application must be apparent. It does not appear, however, that the danger arises from drying up old ulcers, which is the popular notion, but on the contrary, the brain becomes affected during the continuance of the sore. In two of the cases cited there was a direct injury of the nerves.

If this principle is founded on truth, it is probably of extensive application, and the occurrence of brain affections in the progress of disease of the other internal organs might possibly be brought about in the same manner. This investigation can, however, be scarcely made except by means of the double organs. Hitherto I have only attempted to discover the reciprocal action of the brain and the lungs.

Cruveilhier remarked that pneumonia commonly succeeds to cerebral apoplexy and softening of the brain, when death does not take place in the early stages of those disorders. But sometimes this order is reversed, at least in cerebral softening, that morbid condition following an attack of pneumonia. My present object, however, is to show that where these two affections (pneumonia and softening of the brain) are found in the same patient, they mostly follow the same rule as in the preceding class of cases, in occupying opposite sides of the body.

In examining into the evidence on this point, I have, so far as I am aware, omitted no case that has been presented to my notice, whether it has tended to support the doctrine under consideration or otherwise, when the details were given with sufficient precision. But sometimes, although it is mentioned that pneumonia was present, it is not stated which lung had been inflamed: sometimes the pneumonia was double, although the softening was confined to one of the hemispheres of the brain: at others, both sides of the brain were softened, the inflammation being limited to one lung. Such circumstances necessarily render these cases useless in the present inquiry: but I think it must be allowed that those now brought forward are sufficient to prove that the subject is worthy of attention.

MORGAGNI—Vol. I. p. 309.

Right hemiplegia. *Right* lung inflamed.	*Left* hemisphere softened.

MORGAGNI—Vol. II. p. 106.

Right hemiplegia. *Right* lung inflamed.	*Left* hemisphere diseased.

ROSTAN.

Page 80. Left lung splenitized.	Softening of right hemisphere.
106. Grey hepatization of *right* lung.	Softening of *left* hemisphere.
143. *Left* lung hepatized.	Tumor and softening in *right* hemisphere.
120. *Right* lung hepatized.	*Right* hemisphere softened with *clot*.

ANDRAL—*Clinique Médicale*, Vol. V.

Page 451. Red and grey hepatization of *left* lung.	*Right* hemisphere softened.
460. Right lung hepatized. Right hemiplegia.	Left corpus striatum softened.
620. Right hemiplegia. Left lung hepatized.	Atrophy of left hemisphere.
624. *Left* lung hepatized. *Left* hemiplegia.	Right hemisphere atrophied.

BRIGHT—*Reports*, Vol. I. p. 172.

Left lung slightly hepatized.	Softening of *left* hemisphere.

DECHAMBRE—*Gazette Médicale*, p. 305, 1838.

Right lung hepatized. *Right* hemiplegia.	Softening of *left* hemisphere.
Right lung hepatized. *Right* hemiplegia.	*Left* hemisphere softened.

LALLEMAND—Vol. II. p. 470.

Right lung adherent and congested.	*Left* hemisphere softened.

CRUVEILHIER—*Anatomie Pathologique*, Vol. I.

Right hemiplegia. *Right* lung hepatized.	*Left* hemisphere extensively softened. *Right* hemisphere slightly.
Right pneumonia.	Extensive marks of disease in *left* hemisphere. Doubtful softening in right.

CRUVEILHIER—Vol. II.

Right hemiplegia. *Right* lung hepatized.	*Left* hemisphere diseased.
Right lung hepatized.	*Left* lobe of cerebellum diseased.
Both lungs hepatized.	*Both* hemispheres diseased.
Right lung hepatized.	Disease in both hemispheres, chiefly in *left*.
Right lung at its inferior lobe.	Right hemisphere slightly, the left extensively, diseased.

DURAND—FARDEL.

Page 23. *Right* pneumonia.	*Left* softening.
92. *Right* pneumonia.	*Left* softening.
98. *Double* pneumonia.	*Double* softening.
190. *Right* pneumonia.	*Left* softening.
116. Formerly right hemiplegia. Recent *left* pneumonia. Left hemiplegia. Marks of old *right* pneumonia.	*Right* softening.
221. Left hemiplegia. *Left* pneumonia.	*Right* softening.
260. General palsy. *Left* pneumonia.	Softening at base of *left* hemisphere.
403. Right pneumonia.	Left softening.

It will be perceived at a glance that the general result in the above cases strongly supports the supposed relation between pneumonia and affections of the brain. A few exceptions to this rule will be found among the cases, some of which would admit of an explanation in accordance with what appears to be the general law. But for the present I leave the subject, until other facts can be found that might aid in elucidating it.

12th April, 1849.

ON THE USE OF EXTRACTUM COTYLEDONIS UMBILICI IN EPILEPSY.

By Joseph Bullar, M.D.

I had prepared an account of those cases of epilepsy in which I had given the Extract of the Cotyledon Umbilicus, but delayed the publication until sufficient time had elapsed to test the real power of the medicine. In consequence, however, of the inquiries which I have received since my friend Mr. Salter mentioned in your journal that I had used the preparation, it may be acceptable to many who are desirous to try it, that I should state shortly the result of my present experience, reserving the detailed statement until time has rendered the cases more complete; for, as I have only employed it for rather more than twelve months in any case, and during a much shorter period in many, it is almost unnecessary to observe to those acquainted with chronic epilepsy, that sufficient time has not yet been allowed to prove satisfactorily the curative power of the remedy, though the time may have been quite long enough for the conviction that the medicine has a really beneficial influence on the disease.

I will briefly mention two cases, which are sufficient to induce me to persevere in the experiment, although neither may be complete cures.

Mrs. T., 33 years old, the mother of several children, and of a highly nervous temperament, had been epileptic for seven years. The fits had gradually increased in frequency and, severity, so that during the twelve months preceding the use of the cotyledon, she had every three weeks an attack of eight or nine fits following each other for 12 or 24 hours. She has, with occasional intermissions, steadily taken the cotyledon since April 1848 (more than twelve months), and she has had only *one* fit (and that not a violent one) during the last seven months. Her general health and her nervous energy have improved, and she is unwilling to leave off the medicine.

The second case is that of an unmarried woman, about 22 years old, of a vigorous organization, and muscularly strong, whose general health, except slight leucorrhœa and habitual costiveness, was good. She had been epileptic since she was six years old, the fits returning once or twice a week, once a fortnight, and very rarely with so long an interval as three weeks. No remedies had been of the slightest use, and she had been under the care of one of the best physicians in the South of England. Puberty worked no change for the better. She began taking the extract in April 1848, and continued it with few intervals until November. The fits were at first aggravated, then they gradually diminished in number and in violence until they were simply short fits of faintness, without loss of consciousness. In November she went with her parents to France, since which time (and six months have passed) she has had only two of these "fainty" fits, and is in excellent health.

In neither of these cases can the epilepsy be said to be cured (and they are the most satisfactory ones I have seen), but they are sufficiently encouraging to persevere in the remedy for a disease which at present very much baffles us.

In consequence of the difficulty of obtaining fresh leaves, I requested Mr. Randall, chemist, of Southampton, to prepare an extract from the juice: and I have been in the habit of prescribing five grains of this in the form of a pill, twice a day, and in some cases three times. Even in the most inveterate cases it has speedily diminished the violence and frequency of the epileptic fits, with improvement of the nervous power. The patients have slept more quietly, dreamed less; their spirits have improved, and their general health. In one the fits at first were increased in violence; and in two or three there have been for a short time increased nervousness, requiring temporary suspension of the medicine: but in all these cases there has been great subsequent improvement. But those patients and those practitioners who are not disposed to give the medicine a long, patient, and steady trial, will be disappointed. In five inveterate cases (of from fifty-eight to eight years' standing) I gave it for three months, and then discontinued it, for the fits still returned, although they were in all but one case fewer. From my subsequent experience as to the necessity of longer perseverance, I examined the details of these cases, and found sufficient evidence of remarkable diminution in the number of the fits in the three months' trial, when compared with the previous three months, to show, even in these almost hopeless instances, the virtue of the herb. A marked increase of the disease at first is probably a favourable sign, from showing some influence: increased nervousness should merely induce a temporary suspension; and if on the whole the intervals between the fits and their violence are diminished, there are good grounds for perseverance. Possibly the length of the treatment may be diminished by increasing the dose. This is a point for further experiment, as, for obvious reasons, I have proceeded with a new remedy with caution.

Some of the patients to whom I have given it have had no very marked derangement of the general health; others have been of a highly nervous temperament; and others with a look of exhaustion both of body and mind. Such have required no other means, except attention to the bowels, which are often costive, by a simple dinner pill. When, however, with an excitable nervous system (or without it), there is a yellow eye, a foul tongue, turbid acid urine, fœtid and disordered secretions from the bowels on giving medicines, it is essential to purify the blood and fluids by a course of appropriate gentle aperients, which, acting like mineral waters, keep up a relaxed state of bowels without exhausting, and, together with strict attention to food, air, exercise and habits, restore the general health,—a step usually necessary before any specific remedy will act satisfactorily. It is too well known that setting the general health to rights will not alone cure epilepsy, but no remedy can be available if this step is neglected.

In children, and especially boys whose general health is good, it is advisable to begin with a few brisk purgatives of calomel and scammony, followed by castor oil, to ascertain if the fits do not depend on worms. And in young men the state of the urethra should be inquired into, as an irritable urethra, attended with involuntary seminal discharges, may be one cause of the fits, and unless relieved by the use of the bougie, may render any other means abortive.

I am happy to add that many physicians of eminence are now trying the Cotyledon, so that its real merits are likely to be closely examined, and the kind of cases in which it is most efficacious, the doses, and their effects, to be more strictly determined.

Southampton, 1949.

DETECTION OF COPPER IN HUMAN BLOOD.

M. Deschamps states that the experiments hitherto performed to determine the existence of copper in human blood, have failed to prove or disprove the point.

Having with great care and precaution ensured the purity of the reagents and apparatus employed in his experiments, M. Deschamps evaporated to dryness in a porcelain capsule, a certain quantity of blood, and then incinerated the residue in a porcelain crucible. The ashes were digested in nitromuriatic, or in some experiments in nitric acid: this liquid was then evaporated so as to drive off the greater part of the acid. The residue diffused in water was filtered: it was then treated with hydrosulphuric acid, and left for at least eighteen hours, to allow any precipitate to separate. The precipitate was collected by filtration, and the filter, after having been washed in water containing a small quantity of hydrosulphuric acid, was placed in a porcelain capsule moistened with a few drops of nitro-muriatic or nitric acid, and gently heated until the precipitate acquired the colour of sulphur. The filter being then washed, and the liquid evaporated, the residue was calcined; when the capsule had become cool, two drops of nitric acid were added, and a salt was obtained having all the characters of a salt of copper. Ammonia produced with it a blue colour: the ferrocyanide of potassium gave a precipitate at first of a rose-colour, afterwards passing to a reddish brown; lastly the liquid deposited a metallic coating of copper on polished steel.

These facts are considered by M. Deschamps to be conclusive as to the presence of copper in the blood, and that therefore in forensic investigations, the presence of copper as a natural constituent of the body should be taken into consideration before pronouncing an opinion. M. Deschamps further concludes, that copper in the human blood is derived from animal and vegetable food, —that in animals it is derived from the vegetables on which they feed,—and that the latter derive it from the soil. He has already presented to the Academy a memoir on this subject (18th January, 1848).—*Journal de Pharmacie et de Chimie.* X

MEDICAL GAZETTE.

FRIDAY, MAY 18, 1849.

MEDICAL REFORM is, we think, likely to subside during the present Session of Parliament into Medical Registration. As to the former, it is one of those shadowless entities which it is impossible to grasp. There are at present so many conflicting propositions on the subject of reform, that our legislators have in this fact alone, a good plea for postponing the consideration of the subject, until medical reformers unite upon a common ground. Are the sixteen licensing bodies still to retain their power, or are they to collapse into one Imperial University with a College for each of the three kingdoms? Is the Apothecaries' Society to be wholly extinguished? Is a National Institute to be raised from its remains? Are the Colleges of Physicians and Surgeons to remain separate, or to be united? Shall there be one grade, and one qualification, for all practitioners, or three grades, and three qualifications? Each of these schemes has its advocates. One large party is for demolition, another for reconstruction, and a third for amalgamation. With the absence of medical members from the Lower House, how is a selection among these and other schemes to be made? In the meantime Charters are analysed, and imaginary bills denounced, as if they were already engrossed, and about to become the law of the land. We think many of the criticisms upon the plans of reform brought forward last year might be reserved. Nothing is as yet settled, and we do not believe that any measure will be secretly smuggled through the Houses of Parliament, or that any Charter will be privately obtained from Government. The only announcement which has transpired in an authentic form, is contained in the subjoined extract from the proceedings of the House of Commons, on Friday, May 4.

> "In reply to Mr. Thornley,
> "The LORD-ADVOCATE stated that a measure with reference to the registration of duly qualified practitioners in medicine and surgery was in preparation, and he hoped to be able to lay it upon the table of the house in eight or ten days."

It will be time to criticize this and other plans of medical reform and registration, when they have been printed and circulated by order of the House of Commons.

THE publication of the lectures on Preternatural and Complex Parturition, by Professor Murphy, will be for the present suspended. The concluding portion of the Course will appear during the ensuing summer and autumn. In the meantime, we have to announce that, in addition to the lectures of Dr. R. B. TODD, and Mr. B. COOPER, we commence in the present number the publication of the first of six Clinical Lectures on the Physical Diagnosis of Phthisis, delivered at the Hospital for Consumption and Diseases of the Chest, by Dr. R. P. Cotton, Assistant-Physician to the Hospital. These will be continued weekly until completed.

We have also to announce that early in June, we shall commence the publication of the lectures now in course of delivery by Professor Paget at the Royal College of Surgeons, on the Processes of Repair and Reproduction after Injuries. These lectures will be specially revised for this journal.

Reviews.

A Critical Treatise on the General Paralysis of the Insane. Originally published in the Journal of Psychological Medicine. By JAMES M. WINN, M.D., Physician to the Royal Cornwall Infirmary, &c. Pamphlet, 8vo. pp. 50. London: Churchill. 1848.

THIS treatise is a review of a work by Professor Rodrigues, of Montpellier—Traité de la Paralysie Général Chronique, considéré specialement chez les Aliénés, 8vo. pp. 250.

"It is a remarkable fact," as the author observes, "that no monograph on this highly interesting subject has been published in this country," and accordingly we find that the information contained in this pamphlet is for the most part drawn from foreign sources.

The author first treats of general paralysis independently of its combination with insanity, and then proceeds to consider the complication of the two maladies. This form of paralysis has been usually regarded as but an extension of paraplegia. A predisposition to it exists between the ages of thirty and sixty years. Every modification of temperament is liable to its occurrence. According to the French authorities, ambition would seem to be a powerfully predisposing cause, as also hereditary taint, venereal excesses, intemperance, and other depressing causes.

It is found by M. Rodrigues, that the disease is equally prevalent in northern as in southern climates, contrary to previous statements. Among the exciting causes are found the same that are met with in other forms of cerebral disease. The author justly lays great stress on the importance of detecting the early symptoms of a disease so generally fatal, and warns his readers against the too often delusive temporary amendments which occur in its progress. The insidious approach and course of its symptoms are well described. After noticing the first indications to be gathered from slight impediment in utterance, and an incipient immobility in the features, the author adds—"Good and bad symptoms may alternate for some time. . . . The faint traces of immobility cannot be expressed by language. . . . . No paralysis of the face is noticeable, yet there is an appearance of want of vitality in the features, which gives a slightly fatuitous and expressionless look." The arms next become affected; then the lower extremities, sometimes proceeding downwards on both sides, sometimes attacking one side before the other, the sphincters becoming subsequently involved.

Dr. Winn then describes the rapid aggravation of the symptoms, and points out that sensation is the last function affected, while the reflex functions remain entire throughout the whole progress of the disease.

In connection with its complication with insanity, it has already been observed that ambition is a predisposing cause; and this form of insanity, according to our author, presents the most frequent examples of the combination. In these cases the insanity precedes the paralysis, beginning with mania or monomania, and ending in dementia. The prognosis is unfavourable. Some writers have stated that this form of the malady is incurable. M. Rodrigues, however, states that he has effected several cures. We may also refer our readers to an interesting case, related by Dr. A. T. Thomson, at p. 326 of our last volume.

With regard to the pathological appearances, we observe that they present all the varieties and contrarieties found in the crania of insanity, apoplexy, and paralysis, with this one additional feature, that the results of inflammatory action were more frequently found than in simple insanity. Dr. Winn's observations on this part of the subject express the state of our knowledge under this head—"The cause of general paralysis is involved in much obscurity, and the short time which has elapsed since the disease was first recognised, has not been sufficient for investigating the nature of the disease." Dr. Winn collects the results of treatment of various modes, but on the whole does not conclude that much is in the power of medicine.

This short treatise is worthy of the perusal of all medical practitioners, from the amount of information contained in it; but it will be especially useful to practitioners who undertake the treatment of the insane. It may be regarded as not the least important among many excellent contributions to a highly valuable periodical—the Journal of Psychological Medicine.

Proceedings of Societies.

PATHOLOGICAL SOCIETY OF LONDON.

May 7, 1849.

Mr. Fergusson in the Chair.

Dr. Bence Jones exhibited

Two Kidneys, removed from the same subject, one of which was affected with Bright's disease, and the other nearly filled with softened tubercular matter.

Susan Mills, the subject of this disease, æt. 17, of a highly scrofulous aspect and very stunted growth, was admitted into the hospital on the 18th April with œdema of the legs, feet, and face, from which she had suffered for ten months. The bowels were much relaxed, with tenderness and some fluctuation of the abdomen; the urine contained small masses of amorphous matter, many well-formed pus-cells, a few fibrinous cylinders, and much albumen. She gradually sunk, and died on the 27th April.

A post-mortem examination was made by Mr. Gray. The pleural cavities contained a large quantity of straw-coloured fluid; the liver was healthy; the spleen was firm, granular, and lobulated. The left kidney weighed seven ounces: it was flabby, and its surface was pale and mottled; the right one was very much diseased, the cortical and medullary portions being nearly absorbed, and their place filled with softened tubercular matter contained in distinct cysts of large size. On microscopic examination, the secreting structure of both was found to be diseased: the tubuli were distended with a large quantity of oil-globules, but the greatest amount of fat was found to be contained, not in the tubes, but in the Malpighian capsules, apparently external to the vessels contained in that body: the uterus was remarkably small, as also were the Fallopian tubes and ovaries.

Mr. Shaw exhibited a specimen of

Tumor in the Left Lobe of the Prostate Gland,

which had given rise to retention of urine.

The patient, 70 years of age, had been long an inmate of the Middlesex Hospital, but had not complained of difficulty in passing his water till a month before his death. Having been attacked two months previously with hemiplegia of the left side, (which was found, on dissection, to have been caused by inflammatory softening of a portion of the right hemisphere of the brain, near the corpus striatum), it was thought that the dysuria arose from the paralysis; but in a short time, the bladder having become over-distended, it was necessary to employ a catheter, and an obstruction was then met with in the prostate gland. Numerous attempts were made, with catheters of different kinds of curve, to reach the bladder; but every time that the instrument entered the prostatic portion of the urethra the point was turned to the right side of the patient, and it was not till considerable force had been used, followed by bleeding, that the catheter was introduced, and a large quantity of urine drawn off. The instrument had afterwards to be used twice or thrice daily. Symptoms of inflammation of the bladder soon followed, accompanied shortly afterwards by tenderness in the lower part of the abdomen. The patient gradually sank, and died on the 23d April. On the post-mortem examination, the right lobe of the prostate was of the natural size, but the left was one-third larger than the normal size.* This increase of size was found to be owing to the developement of a tumor, of the size of a moderately large hazel-nut, in its centre. The surface of the tumor was smooth, and it was imbedded in a cavity, the sides of which were also smooth, and the connection between them was so slight that the tumor could easily be enucleated from the prostate, which body it resembled in structure; the only difference perceived by the microscope being that the gland was traversed by numerous small wavy fibres, which were not visible in the tumor. Owing to the enlargement of the left lobe, the prostatic portion of the urethra was turned to the right side, and the canal contracted. A false passage had been formed, which commenced in front of the prostate, and, going behind and to the right of the proper canal, opened in one direction into the cavity of the bladder, and in another passed a short way into the thickened walls. The whole bladder was greatly inflamed, the mucous membrane being of a blackish red colour, and lymph and pus being mixed with the urine; the peritoneal coat was inflamed, and to a black spot at the fundus coils of the adjoining intestine adhered by recently effused lymph. The left ureter was dilated and contained pus; the pelvis of the kidney was also dilated and vascular, and in the tubular structure and surface there were a few spots of purulent deposits. Mr. Shaw remarked that this specimen threw light on a case which was lately brought before the Society by Professor Fergusson. During the operation of lithotomy, after having extracted the calculus, that gentleman removed a small round tumor, of solid consistence, from the wound, and he conceived that it must have been formed in the prostate gland. If the patient from whom the present specimen was taken had been the subject of an operation for stone, it was probable that the cavity containing the tumor would have been opened in the incision, so that in extracting the stone it would have been squeezed out of its bed, and might have been brought away, as in Mr. Fergusson's case, from the external wound.

Also a

Skull-cap, showing the reparation after exfoliation which occurred nineteen years before.

Mr. Shaw stated that this skull-cap was taken from the same patient as the last specimen, the man having been admitted in 1829, at the age of 50, for scrofulous lupus, and allowed to remain in the hospital till his death, last month. During the first year after his admission, the ulceration was confined to the face, and slowly destroyed the nose, lips, and parts of the cheeks. At the end of that time collections of matter formed in numerous places under the scalp. These were opened, and the bone was found to be dead at four or five different points. Large portions of the scalp were destroyed by ulceration over the dead bone, so that several distinct pieces of the skull—one at the vertex being about two inches square—remained denuded for some time. These dead portions having become loose, were removed, and upon the largest, at the crown of the head, being taken away, the dura mater was exposed to view, and the pulsation of the brain was so distinct, that it was visible at a distance. Without any cerebral symptoms occurring, the edges of the ulcers healed, and the openings left in the skull were covered by a smooth shining cicatrix, which in the course of a year became so firm that the movements of the brain ceased to be perceived; but, owing to the deep depressions, the ridges and bosses on the frontal and parietal bones, and the crown of the head being without hair, the upper part and sides of the skull presented a remarkably rugged, irregular, and flattened appearance. On the post-mortem examination, traces of the process of exfoliation were visible from a short way above the frontal sinuses to the middle of the sagittal suture, and from one temporal ridge to the other. In some places the whole thickness of the bone had not been detached; but, in one-third of the affected part, the inner table must have been thrown off at distinct parts as well as the outer. The margins of the outer table were rounded, smooth, and bevelled off to the edges of the openings left by the detached sequestra; and these spaces were filled up partly by a firm, fibrous, tightly stretched membrane, adherent to the margins, and partly by newly-formed bone. Although the cicatrix without, and dura mater within, adhered closely to the membrane which filled up the spaces, yet both could be detached from it entire. The newly-formed bone which partly closed up the apertures, extended from the margins of the old bone, in some places shooting out processes, like promontories, into the membrane; and, in others, stretching across, of an irregular form, like peninsulas, to connect the two sides. On the outside, the surface of the adventitious bone had that pitted, fissured, and embossed appearance, and white bleached-like colour, which characterize new bone; while the inner surface was smooth and continuous with the vitreous table of the old bone.

At the largest aperture a slight depression was perceptible, which was owing to the bone and membrane that filled up the space stretching across the opening on a level with the margins, instead of with the arched form proper to the skull. A portion of the bone having been submitted to microscopical examination, was found to contain corpuscles and Haversian canals, like common bone. Mr. Shaw added, that many years ago he had made the dissection of a case where the skull presented appearances nearly resembling those in the present specimen. The patient, an elderly man, having been admitted for compound fracture of the leg, was observed to have a large cicatrix and a deep depression on one side of his head. He stated that, forty-five years before, he had a severe fracture of the skull, that numerous pieces of bone were taken away, and that he had remained well ever since. Upon his death, which took place from the compound fracture, the skull-cap was removed, and is preserved in the museum of University College. The greater part of one parietal bone appears to have been destroyed by the injury, there being a space extending from an inch behind the coronal to the lambdoidol suture, and from the sagittal to within an inch of the squamous suture, filled up partly by membrane and partly by new bone; three-fourths of the repaired part consisting of bone, and one-fourth of membrane. Owing to the new structure being of a flattened instead of an arched shape the skull is depressed at the centre to half an inch below its proper level.

Mr. Prescott Hewett remarked upon the extreme rarity with which new bone is formed after complete exfoliation of the cranial bones: judging merely from the preparation, he should have formed the opinion that in those places where bone was seen the entire thickness of the bone had not exfoliated.

Mr. Avery presented two specimens of *Intestinal Obstruction.*

The first specimen was taken from the body of a youth, aged 20. He had been admitted into the Chairing Cross Hospital, under his colleague, Mr. Hancock, the day before his death, labouring under all the symptoms of internal strangulation. His bowels had been completely constipated fourteen days, and all the usual remedies had failed to produce evacuations from the bowels. The abdomen was greatly distended, very painful at the right iliac fossa, and he had frequent stercoraceous vomiting. He died on the following day. He had suffered several times previously from painful attacks of the bowels.

The autopsy showed the whole of the small intestines greatly distended, and the large ones contracted: the former highly congested, particularly at their lower part; but there was no lymph thrown out on them, there were no adhesions, nor was there any effusion into the cavity of the abdomen. Near the termination of the ileum there was found a portion of that intestine, nearly two feet long, much distended, and much darker than any other part of the canal, and firmly constricted at its upper and lower termination, but more particularly at its lower, by a very narrow adventitious band, not thicker than whipcord, which passed from the vermiform process of the cæcum to the part of the circumference of the ileum opposite to its mesenteric attachment. The adventitious band producing the strangulation appears so slight that it seemed as if any slight effort would probably have severed it.

The next preparation was taken from the body of a woman, æt. 56, who came into the hospital under his care on Friday, the 18th April last. On the previous Friday and Saturday she had experienced difficulty in passing her motions, which were hard, and after the Saturday nothing passed from the bowels. She soon began to feel uneasy, but had no positive pain that she could localise. Opening medicines of various kinds were given her without effect previous to her admission into the hospital. She was a thin, spare woman, but appeared strong. At this time there was a prominent swelling, standing quite in relief, on the right side, exactly midway between the umbilicus and the anterior superior spine of the ileum—resonant on percussion, and the whole of the right iliac fossa and lumbar region were distended, whereas the left side of the abdomen was comparatively flattened. Excepting over the swelling above mentioned, there was not much resonance on percussion. She persisted in stating that her bowels had always been particularly regular at former periods, and that she had never noticed any thing at all peculiar in the form of her motions. Nothing could be felt in her rectum as far as the finger could be made to reach. An elastic injecting tube went, without recoiling, nearly fourteen inches up the lower bowels, and a pint and a quarter of fluid could be injected, but more than that quantity could not be retained. The belly was soft in the course of the colon, and no tumor or hardened lump could be felt in it, and nothing like an abrupt termination of a dilated intestine could be felt on the left side. The most remarkable feature on looking at or feeling the abdomen was the resonant prominence mentioned between the umbilicus and the anterior superior spine of the ilium. All the feeling of tension, tenderness on pressure and pain, which were never great, was referred to this part. There was also an old small femoral hernia on the same side, which came down a little on coughing, but was soft, and not the least painful. Although she vomited occasionally, more particularly after taking medicine, this symptom was not distressing, even to the last, and was never stercoraceous. Her tongue was covered with a thick moist yellow coating, her pulse 90, not particularly weak, and her skin was tolerably cool and comfortable. Every means which could be devised were used during the next five days, to remove the constipation, without success, and on the 10th day her belly had became generally much more distended, her pulse had risen to nearly 140, and was weak; her tongue had become dark, and rather dry; her breathing laboured, and her face and lips congested. It was now clear she must soon sink. In consultation, it was resolved to offer her the chance of relief from gastrotomy, and she willingly consented, after its uncertainty had been fully explained to her. The well-marked swelling on the right side, the old hernia on the same side, the absence of any thing to guide us in the course of the colon or in the rectum, the extent to which the tube entered the lower bowel, and the quantity of fluid which could be injected, together with the total absence of all previous symptoms of stricture, led to the opinion that the obstriction was near the termination of the ileum, perhaps from a band in connexion with the hernia, and it was proposed to make an incision in the situation of that bowel, and then to be regulated by circumstances. An incision, four inches in length, was commenced a little above the middle of Poupart's ligament, and carried obliquely upwards and inwards, in the direction of the umbilicus. The cæcum was found much distended, consequently the obstruction was in the direction of the course of the colon. The incision was enlarged to six inches, nearly to the umbilicus, and the small intestines having been gently drawn through the wound, the colon was traced without much difficulty into the pelvis, and there making a long loose fold, was found contracted. The contracted part was then brought into view, which could easily be done, and it was found to proceed from a firm thickening of the coats of the bowel to the extent of an inch. There were no signs of peritoneal inflammation, and nothing was left but to make an opening an inch and a half long into the most prominent part of the cæcum, and attach it by four sutures to the lower angle of the incision, and thus to establish an artificial anus. The contents of the intestines were pressed out with difficulty, on account of their birdlime-like tenacity, and the complete paralysis of the intestines. Warm water was injected, and none of it was evacuated; the small intestines were replaced, and the wound united by sutures. Chloroform was used successfully, and afterwards she had brandy and laudanum. She was a good deal exhausted by the shock of the operation, and became restless and cold; warm bottles were applied, and stimuli frequently given. Her breathing was laboured, her face and lips much congested, and her pulse extremely feeble. She can scarcely be said to have rallied, and died 12 hours after the operation.

Post-mortem examination.—The whole of the intestines were still very much distended, and the large ones contained a quantity of very tenacious matter, sticky like birdlime, mingled here and there with harder lumps. The smooth polish of the peritoneum was every where destroyed by a thin delicate film of plastic matter, and the convolutions were glued together by the same matter, but easily separated by the most gentle traction. The parts of the convolutions which touched each other showed the red points and streaks of commencing peritonitis. A tube passed up to the stricture measured 14 inches. The narrowing was about an inch in extent, and just admitted a No. 12 sound. It was caused by a firm thickening of the coats of the bowel, more particularly of the muscular and cellular coats, and this thickening occupied principally one side of the tube, as part of the bowel was nearly in a natural state. The thickest part of the induration might have measured three lines, and seemed the result of chronic deposit, without the slightest appearance of malignancy. On the peritoneal surface was an angular indentation, as if the part had once been subjected to the pressure of a band. The surface of the mucous membrane was soft and healthy, saving a little ecchymosis from pressure at the upper opening of the stricture, and it was plaited longitudinally in the constricted part.

Also a specimen of

Stricture of the Urethra.

A man, æt. 50, had lost the whole of the free part of his penis from syphilis, 14 years ago, and had been treated in the London and Oxford Hospitals, more than 10 years, for obstinate stricture. He had been under several eminent surgeons, but no one had succeeded, during the latter period, in passing an instrument into his bladder. He has had some severe attacks of retention of urine, from which he has been relieved with difficulty. Latterly he has passed his urine without much straining, although in a very small stream, and he died of a disease unconnected with the urinary organs. On examining the preparation, the difficulty of passing an instrument into the bladder is sufficiently explained. The normal size of the urethra terminates in a cul de sac, about four inches down. The continuation of the real passage into the bladder is represented by a small slit or crypt-like opening, completely on the floor of the canal, and at least three lines anterior to the termination of the cul de sac. A small probe passes easily through this small opening into the bladder. The anterior opening is an inch before the termination of the bulb, and the whole of the latter is converted into a firm mass, which forms the strictured part. The ordinary precept of pressing a moderate sized instrument with firmness and perseverance along the *upper* wall of the urethra, must inevitably have formed a long false passage *above* the natural opening.

Dr. Peacock presented two specimens of

Mesocolic Hernia.

The first, of which the recent specimen was exhibited, occurred in a man, aged 30, who died at the Royal Free Hospital, on the ninth day, of an attack of maculated typhus, which terminated by effusion on the brain. He had no symptoms referrible to the abdomen.

On examination, the cerebral and thoracic organs presented the appearances usually found in such cases; but in the abdomen there was a very unusual arrangement of the viscera,—the whole of the small intestines being contained in a hernial sac, situated between the folds of the mesocolon. On opening the abdominal cavity, the left half of the transverse colon was found deflected in a longitudinal direction, down the middle line to the brim of the pelvis, and pushed forwards by a large tumor, which projected on each side of it. None of the small intestines were to be seen, but they were found contained in the tumor described, which proved to consist of a hernial sac formed by the folds of the mesocolon. This sac was thick and opaque below; but above the convolutions of the intestines could be seen through it. Its internal lining was smooth and glistening. The jegunum entered it at the upper and posterior part, while the ileum passed out below, and on the right side, at a point about two inches above the termination of that intestine in the cæcum. The aperture by which the ileum escaped was bounded by a thin crescentic edge, which was unconnected with the intestine above, so that the finger could be freely passed into the sac. There was no appearance of any constriction having been exercised on the intestine, and unless the peristaltic action might have been interfered with, the condition was probably not productive of any evil effect.

2. Drawings of a second case of a similar description were also exhibited by Dr. Peacock, in which death was occasioned by strangulation of the intestine at its points of emergence from the sac.

The patient, a carter, 27 years of age, was seized after breakfast, on the 10th of April, 1843, with pain in the abdomen and vomiting, and was admitted the same evening into the Royal Infirmary of Edinburgh. He vomited every thing which he took, and the matters evacuated were mixed with fecal matter: the pain in the stomach was severe, and he had cramps in the extremities, and no evacuation could be procured. He died at two o'clock on the afternoon of the 12th, about fifty-four hours after the commencement of the symptoms.

On examination, the descending colon was found lying immediately on the left side of the cæcum, and the small intestines were contained in a sac formed by the two layers of the left mesocolon, and situated on the left side of the descending colon. The ileum passed out of the sac about two inches above the cæcum, and at that point the canal of the intestine was contracted, and its coats thickened, intensely inflamed and gangrenous. The portion of the intestine above the constriction was greatly distended with air and thin fecal mattter; below that point the canal was contracted.

Dr. **Peacock** remarked, that though mesocolic hernia was described by writers on the subject as an occasional form of disease, but few cases of the kind were on record, and he believed it to be of very unfrequent occurrence. It was questionable how far it was to be ascribed to injury sustained, or an original malposition of the parts, but the latter view was the most probable.

MANCHESTER PATHOLOGICAL SOCIETY.

April 5th, 1849.

Constrictions of the Mitral Orifice of the Heart; small, feeble, irregularly intermitting pulse; extreme tolerance of digitalis.

Dr. **Watts** presented a heart, the mitral valve of which, as well as the mitral tendons, had become thickened, indurated, to a great extent ossified, and the orifice so far constricted, as barely to admit through it a couple of ordinary writing quills. The lining membrane of the left auricle was thick and opaque white. The heart was, on the whole, rather below medium size: the right side appeared perhaps a little larger than proper, comparatively to the proportion it bears to the left in health, but the muscular substance throughout was most healthy. The aorta was very small. The lungs were œdematous, though not much congested; and there was some serum in the pleural sacs, and also in the cavity of the peritoneum.

The patient, an unmarried woman, aged 29 years, had suffered from palpitation of the heart and shortness of breath for seven and a half years, attended at one time with temporary hemiplegia and loss of speech. For the last six years she repeatedly had dropsy, both as anasarca and ascites. The dropsy was invariably removed, and all suffering wonderfully relieved by the infusion of foxglove guarded with ammonia and nitric ether, and further corrected with tartarized iron. During the last six years, she took an ounce of that infusion three times a day, with few and very short intermissions; as she invariably obtained relief from it, and as the palpitation and dropsy always threatened relapse into the worst state whenever she attempted to omit taking it. In the end she died, when, owing to circumstances beyond her control, she could no longer obtain the medicine.

Dr. Watts considered the lesion of the mitral valve very old, and as dating much farther back than the first feeling of palpitation; for when the patient came under his observation in 1843, the state of the pulse, the dyspnœa, the obstruction in the blood, and the sounds and action of the heart, indicated the existence of lesion as complete as was found after death. The heart's action was quick and irregular, as if the organ were engaged in a more or less continuous fluttering movement, and many of its contractions were so slight as to give no pulsation at the wrist. A short remitting bellows murmur was heard at the base of the heart, the omissions being irregular, and for a few seconds at a time'; and this murmur accompanied the stronger contractions of the heart, but not the weaker fluttering contractions. From the irregularity of the heart's action, it was not easy to determine whether the murmur attended the systole or the diastole. The radial pulse was small, thready, feeble, from time to time imperceptible, irregular, intermitting. The patient's attention was first turned to the heart disease in a somewhat remarkable way—viz. by the sudden occurrence of hemiplegia and loss of speech, seven and a half years ago, from which time she continued to grow increasingly short of breath, and more liable to palpitation, until she came under treatment. It is probable something caused extraordinary derangement of the already diseased heart's action at the epoch of that attack, and the result was temporary palsy from obstructed circulation, from which she happily soon recovered.

Dr. Watts wished to draw attention to the great tolerance this woman had for digitalis, notwithstanding the extreme debility of the pulse, and the surprising extent of the obstruction, which so complete a constriction of the mitral orifice offered to the flow of the blood. The case seemed to prove that the notion commonly entertained as to the dangerous nature of digitalis, from its supposed tendency to accumulate to excess in the system, is not yet rightly determined, or that at least the cases in which such danger attends its employment, have not been generalized with sufficient precision. Provided the patient's strength be not reduced too low, he had found digitalis a safe and manageable remedy in all instances in which the urine is secreted freely; the sole precaution necessary to insure its safe and successful operation being this,—to guard it with stimulants or contra-stimulants, as the force of the pulse and the degree of vital power may require, and to assist it with anodyne sedatives and tonics, in accordance with the more urgent curative indications proper to the particular case. It appeared to him that the sudden death of patients which has from time to time happened during treatment with digitalis, had been attributed wrongly in very many instances to the medicine, when it might have been justly attributed to the disease itself; as, for example, to suddenly fatal heart-disease. The action of this valuable remedy merited, in his opinion, fresh investigation in regard to this point. He only mistrusted the action of digitalis where the urine cannot be made to flow in plenty, and where the vital powers are at a low ebb as a whole, either from changes in the life of the blood, or from depression of the nervous system, rather than in cases of mere debility of circulation caused by organic lesion of the heart.

Right Kidney reduced to pus—Bright's disease of left kidney—Hypertrophied heart—Ulcerated os uteri—Fatal apoplexy.

Mr. FARR presented morbid preparations from a woman who died after a few hours' illness: the kidneys were affected with far-advanced granular disease; the right kidney, which must have been completely functionless, was entirely filled with a cheesy substance, like soft putty: submitted to the microscope, this was found to be composed of pus globules, thickly aggregated, and for the most part adherent in patches. The left ventricle of the heart was greatly hypertrophied, and there was some little contraction of the mitral valve; the pleural surfaces on each side were glued together by old adhesions; there was congestion and œdema of left lung, and also some emphysema: the same appearances were less strongly developed in right lung.

A newly formed apoplectic clot was found in the left ventricle of the brain.

There were two large menstrual ulcers in the lips of the os uteri.

Though the patient was moribund, and pulse failing, when first seen by Mr. Farr, he had time to notice a violent palpitation of the heart. From the testimony of relatives, it appeared that she was a married woman, a hawker of sober and industrious habits. She had been in indifferent health for three years, complaining of pains in the right side, and frequent cephalalgia, with palpitation of the heart, but had not applied for medical relief. For the last twelve months she had been liable to take cold from slight causes, and the day on which she died had been exposed several hours to a keen easterly wind. She had been married 11 years, and gave birth to four living children, two of which subsequently died: during the last sixteen months she miscarried, as she believed, six times.

Mr. Farr remarked, that certain of the more serious visceral lesions bore evidence of long existence, without having produced any obvious and certain train of consequences; that the apoplexy was undoubtedly the immediate cause of death, but it remained a question how far the disease of the kidney had brought about the thoracic congestion, and thus, by exciting the heart, already too powerful, to yet stronger efforts to rid itself of the burden of blood, indirectly, and, as it were, accidentally, induced the apoplexy of which the woman died. The case also suggests reflections in another point of view—viz. as to how far the periodical uterine hæmorrhages shared in retarding the progress of disease in other organs of the body; and thus, whilst it was in action really morbid, yet produced a result that really, though vicariously, ministered to the prolongation of life. Without any wish to deny the possibility of six abortions in sixteen months, it appeared more physiologically just, that the so-called abortions should be regarded as so many coagula effused from labial uterine ulcers.

Paraplegia in an Epileptic Man—Scrofulous Abscess of the Spine.

Dr. Renaud presented the diseased spine of a man, 50 years of age, who had been afflicted with paraplegia four months. Two abscesses, as large as duck's eggs, were found, one on either side of the spine, projecting forwards into the thoracic cavity, in front of the fifth and sixth and neighbouring dorsal vertebræ.

These abscesses contained cheesy scrofulous matter and pus. The interarticular cartilages of the fifth and sixth dorsal vertebræ were wholly absorbed, and the bodies of these bones more than half consumed by scrofulous caries. The corresponding portion of spinal marrow was softened and purulent.

The patient, who had been ill-fed and frequently exposed to cold and wet, began to complain, eighteen months prior to his death, of pains around the ribs and chest, succeeded by pains in the loins. Three weeks later he became paralysed, and affected with pains and spasms in the legs. A month later he came under treatment, with aggravation of the paralysis and spasms, but with diminution of the pains. He lay with the lower limbs spasmodically flexed, and when placed in a sitting posture, they would often become spasmodically extended. These movements appeared quite automatic. He now lost all control over the sphincters of the bladder and rectum; sloughs formed on the nates; the legs became œdematous and sphacelated. Epilepsy was inherited from both parents, and he had himself been subject to fits for the last twelve years.

From the circumstance of pain, cramps, and spastic rigidity being associated with irritation of the cord, following compression (unless the compression be so complete as to annihilate sensibility), the opinion was hazarded that the disease was not primarily situated in the cord, but that it was secondarily affected through some irritating cause in the immediate neighbourhood, although the exact nature of the irritation did not clearly appear. Persons suffering under some form of paraplegia were very frequently admitted into hospital from the country, and in the great majority the disease followed exposure to wet, cold, or bad diet, or all three causes united. Railway labourers working in tunnels seemed greatly predisposed to take on this form of disease. As a rule, it was very unmanageable, and local depletions did not appear to exercise much control over the progress of the symptoms. In many instances the patients dated an aggravation of the disease from the time of leeching or cupping. Amongst a variety of remedial measures resorted to, it did not satisfactorily appear what were of the most advantage. The sulphur bath was of service in some cases.

LIVERPOOL MEDICAL AND PATHOLOGICAL SOCIETY.

April 5, 1849.

Mr. Banner on a

Case of Fracture of the Skull.

Mrs. K., æt. 50, of spare habit of body, was knocked down on the 22d of February, 1849, by the falling of part of a chimney from a warehouse thirty yards in height. One of the bricks struck her on the top of the head, a little to the right side. This occurred near to her own house. I visited her immediately after the accident, at which time she was in a state of extreme collapse; the pulse scarcely perceptible; the surface pale and cold; the breathing slow and feeble; the pupils contracted and inactive. There was a contused wound, two and a half inches long, over the right parietal bone near the coronal suture, which bone was fractured and depressed. There was not much hæmorrhage from the wound. The patient lay perfectly motionless; the right arm and leg were drawn up when pinched; the left arm and leg were paralysed. The head was shaved, and cold spirit wash applied to it. Warmth was applied to the surface, and stimulants ordered to be given internally.

The state of collapse continued nine hours, when slight reaction set in; the pulse was more perceptible, very quick, and intermittent; she vomited several times, and she could be slightly roused when spoken to loudly.

23d, *mane*.—(Fourteen hours after the accident.) The patient was more conscious, protruded the tongue when asked to do so, and raised her hand to the seat of injury to shew where she had pain; the countenance was somewhat animated; she watched the attendants as they moved about, and has taken small quantities of brandy and gruel; the left pupil was dilated, and much less active than the right; there was slight power in the left arm and leg.

Nocte.—The patient is more conscious, and gave her hand and protruded her tongue when required, and nods her assent to what is proposed: she has passed urine several times: the attendants are led to understand when she requires this relief, by her attempts to get up. There is an effusion of blood under the integuments surrounding the left eye, which is very dark: this appearance was not observed before this evening.

24th, *mane*.—The patient has passed a quiet night, and slept; the breathing is slow and oppressed, and there is much less consciousness; it is with greater difficulty that she can be roused, and then only for an instant; the pulse is regular, and of a firmer beat (70 in a minute); the left pupil is more dilated and inactive; the right is contracted, and acts slightly. The wound in the scalp was enlarged, and the fracture exposed, which was nearly circular, with a diameter of about two inches: it appeared perfectly isolated and starred, the fractures radiating from the centre, at which point there was the greatest depression. A circular piece of bone was cut out of the right parietal bone, and the depressed portions raised: two of the pieces found loose were removed. One of the fractures extended across the sagittal, in the direction of the left coronal suture. On removing the loose portions of bone, a considerable quantity of fluid blood escaped, and a coagulum was removed from the surface of the dura mater, of the size of a half-crown, and three-quarters of an inch in thickness. There were two lacerations in the dura mater, made by the sharp edges of the inner table, from which the blood escaped: from one was hanging a long black coagulum. After the operation the patient raised herself, and looked about the room, shook hands with those near her, and, from several acts, proved considerable consciousness. She became faint, and vomited twice; the edges of the wound were drawn slightly together, and cold lotion applied over the head.

Nocte. — She has rallied considerably, and appears in every respect better. She has taken soft food, and will do whatever is required of her,—proving her perfect consciousness. She can raise both arms and legs, but has never articulated since the accident. The pulse is quick and weak; the left pupil acts slightly, and is less dilated.

25th.—Has passed a quiet night, and has had occasional sleep; she is quite as conscious as she was yesterday; the bowels have acted twice.

26th.—Has passed another good night, and continues in every respect better.

27th.—Last evening became very restless and heated; the pulse quick, small, and irritable; the tongue white; the senses are more acute; sound in particular appears to annoy her, as does also strong light; the bowels have been well relieved by injection. The wound looks sloughy, and the immediate neighbourhood, when touched, is very painful. Poultices and fomentations were ordered to the head.

28th.—There is a great change since yesterday: the patient appears greatly depressed; the pulse is weak and slow; the face pale; a large slough came away from the wound, followed by a slight discharge of offensive matter; there is restlessness and constant movement with the right arm. Bowels act. The patient drinks freely of weak beef-tea and milk: she refuses gruel, barley-water, and other fluids, clenching her teeth, and resisting the efforts of the nurses to give them.

March 1st.—She lies quiet, and has slept occasionally; she is less conscious; we have a difficulty in getting her to protrude her tongue; the left pupil is less active; the pulse continues remarkably weak, scarcely perceptible at the wrist. The wound looks less angry, though there is a very unhealthy appearance on the dura mater: it is dark-coloured, and speckled with lymph: it does not pulsate. Gentle stimulants, with beef-tea and milk, were continued.

2d.—Another large slough has come away. She continues in the same weak and half-conscious state.

4th.—The patient continued in the same state until this morning, when an abscess gave way, and discharged itself freely from an opening in the dura mater: the pillow, dressings, and night-dress, showed that the discharge had been considerable: it was of a healthy character. Since the discharge there has been a state of greater consciousness, and she has made several attempts to articulate: the pulse continues very weak.

5th.—Has passed a better night; the pulse is less frequent, and not so weak; the discharge of matter is great; the consciousness is more perfect.

6th.—The consciousness is greater; the attendants fancy that they heard her articulate once; she does not, however, answer questions, or attempt to do so; when asked where the pain is, she places her hand over the wound; she gives her hand when requested to do so; the pupils act more regularly; she possesses the sense of taste perfectly; on several occasions fluids have been presented, which she always refused to swallow when tasted, and would take others which she preferred.

7th.—Has passed a restless night, probably owing to a great diminution in the discharge of pus; nor does she appear so conscious; she throws about her right arm and leg, but does not attempt to move the left; she passed urine involuntarily for the first time; the mouth is drawn to the right side, and when asked to protrude her tongue, she opens her mouth, but draws the tongue back instead of protruding it; if asked for her hand, she draws it from under the bed-clothes, but invariably throws it behind her head, and pushes it back, as if making efforts to give it to the person before her.

8th.—Has passed a quiet night; continues in the same half conscious state, and has passed stool and urine involuntarily; experiences a difficulty in opening the mouth, and swallows also badly.

9th.—A large abscess is presenting over the left temple, which was opened, and discharged a quantity of healthy pus: this appeared to give relief, as she was able to open her mouth and take food with less difficulty; the left pupil continues much dilated and inactive; the right acts as usual; she opens the mouth when asked to put out her tongue, but cannot protrude it; in attempting to give her hand, she throws it as before over her head; she watches the attendants moving in her room, and shows other signs of consciousness.

10th.—A large patch of inflammation has appeared over the sacrum, which causes great pain; she continues in the same state as yesterday, as regards consciousness; takes small quantities of food, and sleeps at intervals; the pulse is very weak and quick; the abscesses discharged freely, particularly the one over the temple.

15th.—The patient grew weaker each day since the last report, and died this morning, having survived the accident 22 days. A large slough had formed over the sacrum and left hip; the same state of semi-consciousness continued until yesterday, when the exhaustion became so great as to render any attempt to disturb her an act of cruelty; it also became difficult to get her to take food.

Autopsy.—The scalp was firmly adherent to the bone around the aperture in the skull, but was detached from the skull from the sagittal suture, in the direction of the coronal suture to the left temple; the bone was bare. On looking into the aperture made by the removal of a portion of the right parietal bone, the dura mater was seen to have receded some distance; it was covered with lymph, and there were two openings in it, each large enough to admit a common-sized quill. The coronal suture was found open on the left side, so that the parietal, frontal, and temporal bones were separate, and a small portion of the anterior inferior angle of the parietal was fractured off. The calvarium was removed, and the dura mater was found firmly adherent round the aperture in the right parietal bone made by the operation. There was a long streak of lymph, the breadth of a finger, under the separated coronal suture; there was an opening through the dura mater at this point, through which pus escaped. On raising the dura mater, a large abscess was seen in the right hemisphere of the brain, half full of offensive matter; this cavity was large enough to hold four ounces of fluid. There was a second abscess in the left hemisphere; it was not more than an inch in depth, but it was of three inches in length, and was situated immediately beneath the coronal suture on the left side. These abscesses had discharged through the openings in the dura mater, and had obtained an external exit; neither abscess extended into the lateral ventricle; that which existed in the right hemisphere had for its floor the ceiling of the ventricle, which was so thin as to make it a matter of surprise that it had not given way. The other parts of the brain were perfectly healthy.

There are two or three points of interest in this case to which I would draw attention. In the first instance we have a complication, for the symptoms are those of concussion in conjunction with several symptoms of compression. The patient recovered from a state of perfect unconsciousness to a half conscious state; there was complete paralysis of the left arm and leg, which in some degree passed off, as she could move both on the morning following the accident. There was also some vomiting. On the third day manifest symptoms of compression came on, so urgent as to suggest the necessity of the operation: these symptoms were relieved by raising the depressed bone, and removing a coagulum, the formation of which was the cause of the more urgent symptoms of compression, coming on as they did on the third day after the accident. On the fifth day the first symptoms of inflammation showed themselves, which ran on to suppuration, and the matter made its escape on the tenth day, when there was a decided increase of sensibility. On the fifteenth day a second abscess pointed over the left thumb, which was opened, and after death found to communicate with, and to have come from, the left hemisphere of the brain.

Thus we have in this case two abscesses forming in two distant parts of the brain, and the contents of each escaping through external openings. After the operation there was a return of partial consciousness, which continued to the last. The sense of taste, and the power of motion of the tongue, were perfect; whilst that of speech was destroyed. She could protrude the tongue until the fourteenth day, when she had sense enough to make the effort, but could not get the tongue to obey the will: her efforts at that time to protrude the tongue made her draw it back into the mouth; the same thing occurred with regard to the arm. She drew it from under the clothes when asked to give it; but instead of putting it forward, threw it back over her head. She had the full power of taste, as shown by a dislike to certain things given her, and her approbation of others; and though she could show her assent and dissent by the motions of her head, yet she could never articulate.

The only way in which we can account for the want of power of speech is by presuming that in such a case as the one just related the patient suffers very much from the primary shock, and that the function of the brain must be considerably influenced during the subsequent progress of the case. The act of speaking necessarily pre-supposes an act of mind—namely, the translation of thought into words wherein memory and association of ideas may be called into requisition; which faculty may not happen to be so far affected by injury of the brain as to disqualify the patient for such mental effort, whilst at the same time the influence of the will be permitted to a certain extent over the voluntary muscles,—for instance, allowing the patient to put out the tongue *when requested to do so*; whilst unable to think and arrange words to reply to an interrogation, however simple; the latter implying more a process of ratiocination than the former.

The fracture of the skull did not extend to those parts of the brain corresponding to the origin of the nerves which supply the tongue and parts engaged in articulation—namely, the hypo-glossal, the lingual, and glosso-pharyngeal, and portio dura. Nor were these parts in a diseased state, but, on the contrary, were firm and healthy in character.

Mr. Banner then related the continuation of a case as published by him in the 9th vol. of *Transactions of the Provincial Medical and Surgical Society*, p. 417, where a gentleman, aged 45, attempted suicide by shooting with a pistol: the charge had passed through the temporal bone, and entered the brain. Several large pieces of bone were taken away, when the symptoms of compression, which were urgent, were removed. Symptoms of inflammation of the brain, attended with furious delirium, presented themselves *thirty-one days after the accident*. A fungous growth had taken place through the opening in the skull, which had increased until it was nearly the size of an egg. On the sixth day after the inflammatory symptoms set in, an abscess gave way, and discharged a large quantity of matter from the brain; the fungus receded with the skull, and the patient recovered: this case terminated in confirmed insanity. He is now in confinement, and continues quite well in body. It is eleven years since the accident, and the ball remains within the skull.

WESTMINSTER MEDICAL SOCIETY.

Saturday, May 5, 1849.

MR. HIRD, PRESIDENT.

Catheterism of the Fallopian Tube.

DR. TYLER SMITH exhibited an instrument he had invented for deobstructing the Fallopian tubes in cases of sterility, arising from their obstruction or occlusion at the uterine extremities by thickened mucus, or other impediments. The instrument, in the use of which the speculum is always required, consists of a small silver catheter, bent like the male catheter, or the uterine sound, to adapt it to the curve formed by the uterus and vagina, and having a lateral curve at the distal extremity, pointing, when *in situ*, to the uterine mouth of the Fallopian canal. Through this catheter, a fine, flexible, whalebone bougie is passed into the Fallopian tube; when the small bougie is thus passed so as to project at its Fallopian extremity, the instrument represents accurately the singular direction taken by the generative canal, from the mouth of the vagina to the fimbriated extremity of the tube. This novel operation proposes to bring an important organ under treatment, which has hitherto been removed from all interference.

Mr. W. G. HUNTER exhibited a specimen of

Aneurism of the Thoracic Aorta.

The following were the particulars of the case:—

John L——, aged about 43, by trade a coalheaver, had always enjoyed good health, with the exception of occasional attacks of gout. On the morning of his death he complained of pain in his chest, accompanied with indescribable uneasiness. He pursued, however, his customary avocation. His fellow-workmen left him, and returning a few minutes afterwards, found him dead. He was brought immediately to the Charing-cross Hospital: a post-mortem examination was made twenty-seven hours after death. The left pleural cavity was filled with coagulated blood; the left lung, which was in a very emphysematous condition, was at the same time compressed; the aorta, from its origin to the diaphragmatic opening, was studded with atheromatous deposits; opposite the fifth vertebra, an aneurismal pouch, about the size of an orange, projected into the left pleural space, and as an offset from the aneurism, was a sacculus about as large as a walnut, which had given way by a rent from half to three-quarters of an inch in extent; the edges of the aperture were jagged; the opening by which the aneurism communicated with the aorta was circular, and about an inch and a quarter in circumference, with a rounded and smooth margin; the heart was larger than natural, firm in consistence, and its left ventricle much hypertrophied, with the fibres of a darkish red colour; the valves were perfectly healthy; the abdominal viscera were entirely free from disease.

Obstinate case of Tic-douloureux.

Mr. Wing related the following case:—The patient was a gentleman, 42 years of age, of a vigorous constitution, but who, for a period of sixteen years, had overwrought the energies of both mind and body; his pursuits were literary, and occupied him during the night. He came under Mr. Wing's care in the beginning of February last. He had then suffered for upwards of twelve months with most distressing neuralgic pains of the face and back part of the head, implicating chiefly branches of the fifth pair, the portio dura, and the sub-occipital. No means which had been employed had been of any real service—quinine, amongst other remedies, having been largely employed for many months. At this time he was completely shattered; the mind was evidently losing its power, memory was failing, and he was sinking under the apprehension of a speedy dissolution. His pulse was fifty-four, and labouring; tongue coated with yellow; skin natural; urine plentiful, sometimes thick; bowels generally regular; appetite defective; countenance sallow and anxious. He could not sleep. For twenty years before he had been subject to a peculiar compressive pain in the head on the approach of thunder. The thoracic and abdominal viscera were healthy. Counter-irritants were applied behind the ear, and the following ointment applied over the affected parts night and morning:—veratria, thirty-six grains; spermaceti ointment, half an ounce: this application, though it produced no eruption, gave immediate relief to the nose and forehead. A purgative of calomel, jalap, and ginger was administered, which acted freely; and seeing that the affection was not one of periodicity, and looking at the languid state of the circulation, Mr. Wing ordered him a draught containing the ammoniated tincture of valerian, the aromatic confection and peppermint water, three times a-day. A nutritious diet, with wine, and subsequently bitter ale, was enjoined. Ten days' perseverance in this plan of treatment produced such an amendment that he slept well; his appetite improved, and altogether he was much better. In a month he was in perfect health, and able to resume his usual duties. He continued his ale, and used a shower-bath daily; no mercury was given beyond the dose of calomel. Mr. Wing regarded the case as interesting, from the following facts:—1. The speedy relief afforded by the counter-irritants, even in a case of so protracted a nature. 2. The beneficial effects of diffusible stimulants, combined with a cordial, and the utter uselessness of quinine, though largely administered. 3. The rapidity with which amendment, both in body and mind, took place, on the relief of the agonizing pain to which he had been so long subjected.

In answer to questions, Mr. Wing stated that the teeth had been carefully examined; there was no unsound tooth; and the patient was of temperate habits.

Mr. Henry Smith read a paper on

The seat of Stricture in the Urethra; and on the treatment to be employed in some forms of that disease.

The author stated that it was a generally entertained notion amongst the profession, that permanent stricture of the urethra was most frequently seated in the membranous portion of the canal; but he had been led to believe that this was by no means the case; and in order to come to some correct conclusion on the point, he had undertaken the careful examination of a considerable number of morbid specimens of this disease which were preserved in the Museum of the College of Surgeons, and others in this metropolis. Of ninety-eight specimens of stricture, he had found that the disease was seated in the membranous part of the urethra only in twenty-one instances; whilst in seventy-seven the stricture was found to be in front of the triangular ligament; and in the majority of these the obstruction was seated either in the substance of the bulbous portion of the canal, or a little way in front of it. An excellent anatomist (Mr. Hallet) had examined the greater number of these specimens with the author, and had agreed with him in the seat of the disease. The author made several quotations from the works of those who had written upon this disease, and showed that the opinion of the majority was, that stricture was most frequently met with in the membranous portion of the urethra; but he found that two of the greatest authorities supported Mr. Smith's opinion, that stricture was most frequent in the bulb, or just in front of it, and they were—John Hunter and Sir Astley Cooper, both of whom state that they have met with stricture chiefly in front of the triangular ligament. The author next makes some remarks on the causes of stricture. He considered the opinion that injections caused it, to be erroneous, and that, when used of proper strength, instead of producing stricture, they rather had a tendency to prevent it. With regard to treatment, he believed that some cases of stricture were rendered more obstinate of cure in consequence of the too frequent introduction of instruments; and that, in those cases of irritable and bleeding strictures, the surgeon should be particularly careful in not using too much force, and not introducing the instrument too frequently. He instanced two cases under his own care, in which most profuse and alarming hæmorrhage ensued, and where he thought he had not been so cautious as he should have been. Surgeons were somewhat divided in opinion respecting the mode of proceeding in those cases where it was absolutely necessary to divide the stricture with a cutting instrument. There were two plans of doing so—namely, introducing a concealed blade, and dividing the stricture from within; and the other consisted in laying the urethra open from without, through the perineum. He considered that the latter mode was far superior in every respect to the other, as the surgeon could see what he was about, whilst in the former method he was working in the dark, and liable to cause great mischief. When the obstruction was not far from the orifice, this instrument might be used with safety and advantage, but when it was met with at the bend of the urethra, it is far better to cut through the perineum. It was a difficult operation certainly, and it required some skill and courage on the part of the surgeon. If properly done, the benefits obtained by it were most satisfactory. Several cases had lately come under his observation, where Mr. Fergusson had operated in this manner, and the relief obtained by the patients was extraordinary. He had never seen any fatal case, or any bad results, from this proceeding.

Mr. **Hancock** differed from the author of the paper in regard to the general situation of stricture in the urethra. He had examined the preparations in the College of Surgeons, and the conclusion he had come to was, that, with the exception of four or five specimens, the stricture was situated in the membranous portion of the canal, or at the junction of the membranous with the bulbous portion. This he believed, as a general rule, obtained in almost all cases. When the disease was of long standing, then it advanced from behind forwards. This might explain the mistake into which he conceived Mr. Smith had fallen. In some cases of hæmorrhage which had been mentioned, Mr. Hancock did not think Mr. Smith had been to blame. In such instances much depended on the size of the instrument, and it was better to employ a moderately large bougie, as eight or nine, at once; and it would be found that such an instrument more readily passed into the bladder than a smaller one, which produced irritation. He alluded to a form of obstruction of the urethra not mentioned by the author, but which he believed not to be unfrequent; this depended on a debilitated constitution consequent upon over-employment of the sexual organs, either in venery or self-abuse. It essentially consisted in a fold of membrane at the neck of the bladder.

Mr. **Canton** agreed with the last speaker as to the usual situation of stricture. In this canal, as in other mucous canals, strictures occurred at the parts where a smaller joins a larger part of the canal; and if more than one stricture was found, that in the membranous portion was the first formed.

Mr. **Erichsen** said that strictures were usually situated at the membranous portion of the urethra. If the specimens observed in museums did not exhibit this, it must be recollected that it was only the rare cases of the disease which were preserved; and those in the membranous portion were too common to put up. He agreed with Mr. Hancock in the advantages of large instruments in cases of irritable stricture, and mentioned that in cases of this description he had found the greatest benefit from the employment of nitrate of silver in the manner recommended by Lallemand. He mentioned, also, that he had seen great benefit from the employment of ether and chloroform in cases of impassable stricture; one case in particular he had seen in the practice of the late Mr. Liston. The strictured part was reached by the catheter, but it was found impossible to pass it. Chloroform was administered, and the instrument slipped in.

Mr. **Alexander** spoke in terms of praise of the use of nitrate of silver in obstinate cases of stricture occurring in persons who had resided in India.

Mr. **Clarke** referred to the practice pursued by Mr. Wade in cases of impassable, irritable, and some other forms of stricture, by the employment of potassa fusa. He regarded the plan of that gentleman as a great improvement on the one practised by Mr. Whateley, and considered that it was a form of proceeding which the numerous successful cases recorded by Mr. Wade showed was too much neglected by the profession.

Mr. **Acton** believed that the use of injections never, if properly employed, caused stricture; but, on the contrary, that they might act as a preventive.

Mr. **Smith**, in reply, said that he was glad to find so experienced an observer as Mr. Acton agreeing with him in the opinion that stricture was not caused by the proper use of injections. Although such good authorities as Messrs. Hancock and Canton differed from him, with respect to the seat of stricture in the preparations at the College of Surgeons, he was supported, in his own view, by a most excellent anatomist; and he still thought he was in the main correct, but he should prosecute his researches on this subject still further, and at a future period submit them to the profession.

Dr. Garrod read a paper on the

Pathological Condition of the Blood in Cholera.

The author divided his communication into two parts: in the first he spoke of the investigations which had been made previous to the present year, and gave the results arrived at by Dr. O'Shaughnessy, Dr. Thomson, of Glasgow, and Dr. Clanny, in this country, and by MM. Rose and Wittstock, Lecanu, and others, on the continent. In the second part, he detailed the post-mortem appearances, together with the examinations of the blood and evacuations in those cases which had fallen under his notice during the present epidemic. These, he observed, had been limited in number, and the analyses attended with many difficulties, from the fact that the blood taken after death had frequently to be used for the purpose. After stating the various analyses, he gave the following epitome of the different results:—

Physical condition of cholera blood.—The blood was always found more tenacious than in health, of a darker colour, and less disposition to coagulate; its specific gravity greatly increased—viz. 1068, 1074, 1076, (the specific gravity in health being about 1062), and 1081 in adults; in children, also, it was very high.

Water and solids.—The water was always found much less in quantity than in health, and the solid portion increased in like proportion.

Blood-globules.—These were found to be increased in amount.

Fibrin.—In many cases this principle was not able to be determined, from its having lost its power of coagulation; when it was separated by whipping, it was found not to be diminished in amount, although deficient in its tenacity.

Constituents of the serum.—When this fluid could be separated from the cruor, it was found to have a specific gravity much greater than in health. In two instances it had a specific gravity 1038 and 1041 (healthy serum averaging 1028).

Albumen.—This principle was always in large excess, and to this was due, in a great measure, the increased weight of the serum.

Salts of the serum and blood.—With regard to the amount of the saline portion of the blood in cholera, the results arrived at by Dr. Garrod differed considerably from those obtained by Dr. O'Shaughnessy; and in place of finding a deficiency, they appeared, in many cases, to exist in increased quantities. In several cases, the numbers representing the amount in 1000 parts of blood, were as follow:—10·7, 7·54, 7·50, 6·15, 6·02, and 5·72 parts, the mean proportion in healthy blood being about six parts. In like manner the soluble salts of the serum were found to be increased. Dr. Garrod noticed, that in the blood of two children who had died of cholera the salts were in very large amount. Both the serum and blood were at times found neutral, or even acid in reaction. The neutral condition before noticed by Dr. O'Shaughnessy was ascribed by him to a loss of the soluble salts, especially the carbonate of soda: that such, however, was not the true explanation, was demonstrated by the fact of Dr. Garrod having found that the ash of an acid blood gave an alkaline reaction as strongly marked as that obtained from healthy blood, and that the amount of the soluble salts was not diminished.

Urea.—This substance was often found in the blood in cholera, and in many cases it might have existed in quantities larger than in health, and yet escaped detection. In general, it was found to exist in increased quantities, and the amount of this increase depended much on the state of the patient at the time the blood was obtained, or in what stage of the disease the individual died: thus, in the stage of collapse it was found in but small amount, when partial reaction had taken place, and had continued for a time, then it was increased, and in the consecutive febrile stage its excess became very great. Dr. Garrod explained this by supposing that in the intense collapsed stage, the formation of urea became suspended, as well as its excretion by the kidneys; thus accounting for its being then but little augmented: but when reaction, febrile or otherwise, takes place, then the formation of this principle ensues, and often the excretory power of the kidneys is not regained: and hence its accumulation in the blood.

From the results obtained recently, together with those arrived at in the former epidemic, Dr. Garrod drew the following conclusions—viz.

1st. That in cholera the physical characters of the blood are altered, and that its tendency is to become thicker, tar-like, and less coagulable.

2ndly. That the proportion of water is much diminished.

3rdly. That the specific gravity of the serum is very high, due to the increase of the solid portion of the serum, and especially to the albumen; that this fluid also tends to become less alkaline in its reaction.

4thly. That in cholera the saline constituents of the blood are not only not decreased in amount, but sometimes exist even in increased proportions, and that the diminution of the alkaline reaction is not due to the loss of salts, but to the diminished excretion of acid matters which are constantly being formed in the system.

5thly. That urea usually exists in increased quantities in cholera blood, but that the amount differs considerably in the different stages of the disease, being but small in quantity in the intense stage of collapse, increasing during reaction, and in excess when consecutive febrile symptoms occur.

Dr. Garrod then stated, that although our knowledge of the changes which occur in the blood during cholera were confessedly very imperfect, yet that sufficient was known on the subject to enable us to distinguish this disease from any other, and to solve the following problem:—"Given, a specimen of human blood, to determine whether it was derived from a cholera patient."

Dr. Garrod then showed the bearings of these researches on the pathology of the disease, and alluded to some points in the treatment.

MEDICAL SOCIETY OF LONDON.

Monday, April 30th, 1849.

MR. HANCOCK, PRESIDENT.

Œdema of the Uvula.

DR. GOLDING BIRD drew the attention of the Society to a condition of the uvula of which he had met with three cases, but which he believed were uncommon. It consisted of an elongation of, or rather addition to, the uvula; the addition consisting of a thin body varying in length and about the size of a crow-quill, appended to which is a pellucid body, in some cases about the size of a French bean. The disease seemed to consist of an œdematous condition of the membrane of the uvula. His attention had been called to it first by having been sent for in a hurry to see a lady who, having been previously in good health, was suddenly seized with symptoms of suffocation and most distressing cough. On examining the throat, at first nothing unusual could be detected; but on a further examination the condition above referred to was discovered. A pair of scissors easily snipped off the offending addition. In a second case the patient was a publican —a hard-working, sober man, but who had suffered from slight inflammatory fever before. In his case the signs of asphyxia were most marked and alarming. In his case, also, the body, which was as large as a walnut, and in this instance without a pedicle, was easily removed. In another case a young man had suffered from sore-throat for several days, and here the symptoms suddenly became alarming. On examining the throat, a body connected by a pedicle was found to be attached to the uvula. It was easily removed. In neither of these cases did the narrator know the cause of the affection, but in one instance the urine was albuminous.

Dr. BOWIE related a case in which a tumor of the kind mentioned had produced hoarseness, and, on one or two occasions, symptoms of asphyxia.

Dr. BENNETT had seen cases of œdema of the uvula in which there was no concomitant sore-throat. Astringent gargles usually cured the disease.

Mr. PILCHER had seen cases of œdema of the uvula. In some instances a body hung from the uvula, suspended by a thin pellucid pedicle.

Mr. HILTON had seen similar cases. The bodies attached to the pedicle were very liable to get down into the larynx, and produce spasmodic action of the muscles of that body, and threaten suffocation. He mentioned that he had seen great evil arising from the removal of the uvula; it destroyed the proper form of the pharynx, and interfered with deglutition.

ROYAL INSTITUTION.

May 11, 1849.

DR. V. PETTIGREW *on the Organs of the Voice.*

THE anatomy of these organs was well illustrated by diagrams and dissections, as well as by M. Lemercier's models. The production of vocal sounds was explained by the aid of various musical instruments. Towards the end of the lecture a person was introduced who possesses the remarkable faculty of producing two distinct notes simultaneously. One of these notes was nasal: it was grave and soft, and somewhat similar to the drone of the bagpipe. The other note was higher in pitch, and was produced in the mouth apparently by forming a channel between the roof of the mouth, and the tongue hollowed and rolled up on either side in a tube-like form. One fact was thereby demonstrated, that in producing the peculiar sounds a double current of air issued from the nose and mouth simultaneously.

IODIDE OF POTASSIUM IN SYPHILITIC RHEUMATISM.

THE large number of sailors admitted with this complaint, renders it easy to test remedies with it; and this experience shows that the above medicine, in moderate doses (gr. x. ter die), acts as a specific upon it, often relieving the nocturnal pains in the bones in a few days, and favouring the disappearance of nodes. Several such cures I have noted, and from one to two dozen must occur annually in the hospital.—*American Journal of Medical Sciences*, January 1849.

Correspondence.

EFFECTS OF CHLOROFORM WHEN USED INTERNALLY.

SIR,—In the number of your journal for the 27th of last month (April), page 744, there is to be found a formula for "a solution of camphor in chloroform for medicinal use," by Messrs. Smith and Co., of Edinburgh.

I should be glad to be informed through your respectable publication, so extensively circulated, in what cases chloroform (with or without camphor) has been administered *per vias naturales*.

It is stated in Dr. Christison's Dispensatory (2nd ed. 1848), at page 791, under its title, Action and Uses, "to be in large doses a narcotic poison, and in medicinal doses a stimulant, sedative, anti-spasmodic, anodyne, and anæsthetic." "When taken internally in medicinal doses, chloroform acts as a calmative and anti-spasmodic." "So early as 1838, Dr. Formby, of Liverpool, used it on account of these properties in hysteria; and in 1844, M. Guillot, of Paris, made use of it as an anti-spasmodic in asthma." The dose internally is probably from five to twenty-five minims. It may be dissolved in water with the aid of a little spirit.

I have been led to make these inquiries by having had my attention lately drawn to a case where a dose (about 2 drs.) was ignorantly but designedly administered in a glass of wine, to produce its usual anæsthetic effects. In this, however, it failed: the person who took it only showed symptoms of dulness and heaviness, such as are sometimes witnessed in those who are stupidly tipsy; and these effects entirely disappeared in an hour or two.

I failed in my endeavour to convince the chemist who sold the preparation, of the impropriety and responsibility of vending such an article (½ an oz.) to an indifferent person (a man-servant), and perhaps without exposing the guilty party. This statement may act as a caution to those keeping this article for sale, should any such persons have it brought under their notice.

Its internal use has never yet appeared fairly and satisfactorily before the profession (except in a few partially described cases of cholera), and it appears to me an important *desideratum*.

I am, sir,
Your obedient servant,
W. S. G. DAVIES, M.D.

Brighton, May 14th, 1849.

Medical Intelligence.

LETTER TO SIR GEORGE GREY ON MEDICAL REFORM. BY G. KELSON, ESQ., SEVENOAKS.

(*Copy.*)

SIR,—I humbly, yet most earnestly, beg to claim your most serious consideration on the long contested subject of Medical Reform: I was deeply interested and most actively engaged in a memorial presented to you in 1845, imploring you to preserve *intact* the present Charter of the Royal College of Surgeons in England.

This said memorial I beseech you carefully to reperuse and consider. To it were attached the signatures of many medical men,—men of great worth and influence in the medical world,—residing in various parts of the United Kingdom. Their respective commands for their signatures I still possess, and if I could imagine it possible a doubt could be cast upon their integrity of purpose, or their anxiety for the cause, or their capability of judging in this matter, I would boldy suggest that inquiry be made into the character and position of every person whose name is attached to this said memorial, and that their petition do stand or fall by the result of the inquiry.

I still urge you to preserve this said Charter *intact*.

I so far agree with my professional brethren of Manchester who have lately memorialized you, that "no satisfactory reason exists for the establishment of a College of General Practitioners in England."

I am confident such an establishment would place not only surgery, but also the profession at large, in a most anomalous and confused condition, and that it would be prejudicial and injurious both to the profession and to the public.

If *reform* be required, I fearlessly assert it must commence with medical men themselves, who should be Christians and gentlemen; all of them who are not such should be entirely unnoticed by those who maintain a correct conduct.

If *illegal practice* is to be put an end to, let it be clearly defined what is not legal practice; and let the mode of punishment for illegal practice be rendered as facile as possible, by the recovery of penalty after penalty in the County Court.

Registration in England, different from what now exists, cannot be required. The Royal College of Physicians prints a list. The Royal College of Surgeons prints a list. The Worshipful Society of Apothecaries' prints a list. If the *curriculum* of education do not meet the views and necessity of the day, let it be altered by the *Board of Examiners*. Surely this, in reference to the general practitioners, can be effected as efficiently by the existing Board of Examiners, as it would be by a Board formed of other medical men selected from the same *order* of the profession! I beg particularly to call your attention to the existing Board of Examiners. With all due respect for, and deference to the present Board of Examiners of such as now seek legally to become General Practitioners or Apothecaries—and I know this Board to be composed of "good men and true"—I do think there might be a great improvement even though a short act of Parliament might be necessary to accomplish it: viz.—let the present Board be empowered to add *Professors* of the various branches of examination, leaving to the Members of the Board themselves, if they desire it, the examination practically in physic, and certainly the general control of the Board.

This suggestion, with at least equal force, will apply to any other Board of Examiners formed of General Practitioners; because general practitioners of sufficient age and ability to be qualified for this undertaking, may naturally be supposed to be so much engaged in practice, that they cannot have leisure to keep pace with the times in the study of the minutiæ of science, whereas a *Professor* who is *daily teaching* is *hourly learning;* and is thus alone fitted for an examiner in the various branches of the profession.—I have the honour to subscribe myself, sir, most respectfully,

Your obedient servant,
GEORGE KELSON.

To the Right Hon. Sir G. Grey, Bart. &c. &c.
Whitehall.

Sevenoaks, April 27th, 1849.

ON THE ABOLITION OF INTERMENT IN TOWNS.—PETITION OF THE GLOUCESTERSHIRE MEDICAL ASSOCIATION.

To the Honourable the Commons of the United Kingdom of Great Britain and Ireland in Parliament assembled.

The Petition of the President and Council of the Gloucestershire Medical and Surgical Association, sheweth—

That your Petitioners are of opinion that the interment of the dead in towns and populous districts is highly injurious to the public health, and that no measure of sanitary reform is complete unless this obnoxious system is at once and for ever abolished by Legislative enactment.

That your Petitioners desire to express their unfeigned satisfaction that this national grievance was the subject of inquiry by a Committee of your honourable House in the year one thousand eight hundred and forty-two, who reported that, "after a long and patient investigation, your Committee cannot arrive at any other conclusion than that the nuisance of interments in large towns, and the injury arising to the health of the community from the practice, are fully proved."

That, from the evidence adduced before the Committee, and the many subsequent exposures of the lamentable and terrible consequences resulting and necessarily arising from the present system of interment, your Petitioners venture to express their earnest desire that the burial of the dead in the midst of the living may be prohibited by the closing of all burial-places in cities, towns, and populous districts, and by the adoption of such measures as may secure the public from the injurious and debasing practices at present existing.

That your Petitioners cordially support the efforts now making by the National Society for the Abolition of Burials in Towns, and they desire respectfully to add their testimony and influence, as experienced medical practitioners, in aid of a measure at once politic and humane, and worthy of an advanced civilization.

A BLOW AT INTRAMURAL BURIALS.
WATERFORD, GLOUCESTERSHIRE.

THE following memorial has been signed by the leading medical men of Waterford:—

We, the undersigned, declare it to be absolutely necessary to the safety of the public, that no more interments should take place in the churchyards of this city. The state of them, and especially of the older ones, is at once an outrage on public decency, as well as detrimental to the public health. In the cathedral churchyard, which is altogether uninclosed, and a public thoroughfare, as well as the resort during the night of bad characters, the earth is continually falling into the old graves, leaving passages or vents which lead to the remains deposited below, and serve for the escape of noxious gases; and when the earth is thrown up to form fresh graves, it is found so loaded with animal matter, as to be actually offensive to the nose as well as eyes. In Olave's Churchyard, the bodies have of late years been deposited in tiers, above each other, just under the east window of the church, till they are within less than 3 feet of the surface, and actually above the level of the ground within one or two yards adjacent; whilst at certain periods, and in certain states of the atmosphere, a putrid smell can be distinctly perceived in the neighbourhood. John's and Patrick's Churchyards are in much the same state; and we therefore submit, that it is the duty of every one, and especially of public bodies, to co-operate for the abatement of a nuisance so dangerous and disgraceful to our city.

In Gloucestershire, also, the medical men are bestirring themselves. Last week Mr. Mackinnon presented a petition to the House of Commons from the president and council of the Gloucestershire Medical and Surgical Association, representing a large body of practitioners. It sets forth,—

That your Petitioners are of opinion that the interment of the dead in towns and populous districts is highly injurious to the public health, and that no measure of sanitary reform is complete unless this obnoxious system is at once and for ever abolished by legislative enactment.

That your Petitioners cordially support the efforts now making by the "National Society for the Abolition of Burials in Towns," and they desire respectfully to add their testimony and influence, as experienced medical practitioners, in aid of a measure at once politic and humane, and worthy of an advanced civilization.

THE GLASGOW FACULTY AND THE GRIEVANCES OF THE NAVAL SURGEONS.

(*Copy.*)

Unto the Honourable the Commons of the United Kingdom of Great Britain and Ireland, in Parliament assembled.

The Petition of the Faculty of Physicians and Surgeons of Glasgow, humbly sheweth—

That the Assistant Surgeons of the Royal Navy, many of whom are licentiates of this Society, are subjected to grievances from which, in the opinion of your Petitioners, they ought to be relieved by the Legislature.

That these grievances are mainly due to an order of the Lords in Council: made in 1805, not having been fully carried out, to the effect that medical officers of the Royal Navy should be placed in the same position in all particulars with medical officers of corresponding rank in the Army.

That it appears that the Assistant Surgeons of the Royal Navy are the only officers entering the service at an adult age excluded the ward-room or general officers' mess.

That in consequence thereof, they are exposed to many personal indignities, and compelled to mess and associate with midshipmen and naval cadets,—gentlemen much their juniors, engaged in the acquisition of an elementary nautical education.

That their position as gun-room or junior officers renders them ineligible to possess cabins, which are the only places of *bonâ fide* retirement for the purposes of study.

That in consequence they are denied the opportunities of studying the diseases which come under their observation, as well as of reviewing the varied knowledge which they had acquired at the schools, and of keeping pace, through a consultation of the medical literature of the day, with the rapid march of the medical science; thus leading to a neglect of self-culture, highly injurious to their own future prospects, and most detrimental to the public service.

May it therefore please your honourable House to take into your early consideration, and to remedy the grievances set forth in this petition, by granting to the Assistant-Surgeons of the Royal Navy the rank and privileges of ward-room officers; and your Petitioners as in bounden duty will ever pray.

Signed for, and in name of, the said Faculty, by order and authority of a general meeting held at Glasgow the seventh day of May, eighteen hundred and forty-nine.

WILLM. WEIR, M.D.
President of Faculty of Physicians and Surgeons, Glasgow.

CONVENTION OF POOR-LAW MEDICAL OFFICERS.

SIR,—The Committee of the Poor-Law Medical Officers, relying upon the obliging assistance given to their cause by all the medical journals, beg the favour of your inserting in your next number the following notice, addressed more especially to the Poor-Law Medical Staff.

Shortly after their meeting in February last, presided over by Lord Ashley, and the presentation to Parliament of their petition, then extensively signed, it was deemed expedient by the Committee to invite, or excite, the Union surgeons throughout the kingdom to petition the Commons House relative to their grievances and false position.

A circular note, with an outline or form of petition, was sent to one of the surgeons in each union, with the hope that he might induce his colleagues to sign a petition in aid of the general movement. Since then numerous well-signed petitions have been received by the Committee for presentation, while others have been introduced to Parliament by members of the Legislature from the more immediate districts of the petitioners.

There are, notwithstanding, many unions which have not accomplished any thing in this measure: it can rarely be the case that such are satisfied with their remuneration from the guardians, or with the countenance given to their professional consequence. The few, however, thus more happily placed may, perhaps, find a generous motive for acting, furnished by the defects of the present system, and the consequent pressure on the bulk of their less fortunate brethren. The Committee therefore earnestly urge *all* to forward their petitions without delay, that the movement now becoming so general, may lose nothing through want of simultaneous and harmonious action, if not of the profession at large, at least of the Poor-Law Medical Staff.

In conclusion, I beg to mention, as very "à propos" to the subject, that when the Parliamentary inquiry of 1844 was going on, a member of the Special Committee, not friendly to the Surgeons, remarked that the hardships alleged to exist among the Poor Law Doctors could not be "so great," since "only *one Petition had been presented* to the *Legislature seeking redress.*"—I have the honour to be, sir,

Your obedient servant,
CHARLES F. J. LORD,
Hon. Sec. &c.

4, Hanover Square,
May 15, 1849.

UNIVERSITY INTELLIGENCE.—OXFORD.

IT is hereby notified to Students of Medicine who purpose to offer themselves as candidates for the degree of Bachelor in that faculty, that the next examination will be held on Tuesday, June 12. Candidates are required to transmit to Dr. Ogle, the Clinical Professor of Medicine, the usual certificates of their having complied with the requisitions of the statute Tit. VI., section 5, § 1, 3, on or before Monday, the 28th inst.

KING'S COLLEGE HOSPITAL.

THE tenth anniversary festival of this valuable institution took place on Saturday, at the Freemasons' Tavern, and was remarkably well attended. The Earl of Carlisle presided, and about 200 gentlemen sat down to dinner. After the usual loyal toasts, the Chairman proposed "the Archbishop of Canterbury and the Church," to which the Bishop of Ripon responded in appropriate terms. The right rev. prelate bore testimony to the religious character of the training at King's College, and the value of the institution, the funds of which they had met to aid. In proposing "Prosperity to the Hospital," the chairman expressed his delight at finding that during the ten years of its existence, the benefits which it had conferred in the alleviation of sickness and bodily distress had been without exception regular and progressive. In the year 1840 the number of out-patients amounted to 4,056, and of in-patients to 778. Now, however, he found that during the past year there had been 19,383 out-patients, and 1,253 in-patients. The generosity of the public had not kept pace with the demands upon the skill of the medical officers attached to the hospital, but the good offices of the latter had been rendered notwithstanding. The hospital supplied great facilities for the attendance not only of medical, but also of theological students, on the sick, and the clergy had constant access to the wards for the purpose of administering spiritual consolation to all who might be willing to receive it therein. The noble lord concluded a very eloquent and impressive speech by calling on the company present to subscribe according to their means towards the support of so excellent an institution. The secretary, in the course of the evening, announced subscriptions and donations amounting to a sum very little short of £2,000.

THE CHOLERA IN PARIS.

THIS formidable disease is still spreading through the city of Paris, and is giving rise to great mortality. According to the latest accounts (May 15), the cases daily admitted into the hospitals, were on an average 141, and the deaths 43. The total number of cases since the outbreak of the disease, two months since, has been 4946, and of these 2434 proved fatal. The mortality is therefore about fifty per cent.! The Parisian medical journals state that the cholera is now on the decline; but the facts which they report are decidedly adverse to this view.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 10th of May, 1849:—Thomas Denny Everet, Stepney Green—Edmund Brown—John Williams Jones, Dolgelley—Robert Harper, Brighton—David Saunders, Carmarthen—Nathaniel Philips Betts—Thomas Massey Handing, Ludlow, Salop.

OBITUARY.

SUDDENLY, at Paris, on the 4th inst., Chas. Morison, Esq., M.D., Physician to the Forces. Dr. Morison was long in the Royal 10th Hussars, and served in that regiment during the campaign of General the late Sir John Moore, as also in the campaigns of Field-Marshal the Duke of Wellington, in the Peninsula.

TINCTURE OF LOBELIA IN ASTHMA.

IN 12mo., 1846, three cases occurred which evinced the great utility of lobelia as an antispasmodic expectorant. They were both instances of asthmatic congestion of the lungs, one of them quite severe and threatening. Cups, blisters, and some other depletory measures, were used in both; but the most signal benefit was repeatedly referred by the patient to the lobelia, in doses of ʒss. of the tincture every few hours, or even more, during the severity of the paroxysm. One bore drachm doses without vomiting or other unpleasant effects. The remedy was gradually withdrawn when relief was obtained.

Another instance of its use with success is noted in 2 mo., 1847.—*American Journal of Medical Sciences*, January 1849.

BOOKS & PERIODICALS RECEIVED

DURING THE WEEK.

Letters on the Truths contained in Popular Superstitions. By Herbert Mayo, M.D. Frankfort, 1849.

On the Extraction of the Teeth; with an Account of a less painful Mode of Operating. By H. Gilbert, M.R.C.S. &c.

The American Journal of the Medical Sciences. May 1849.

Report of the Climate and principal Diseases of the African Station. By Alex. Bryson, M.D. Printed by Order of the Lords Commissioners of the Admiralty.

Report of the Committee of Visitors of the Lunatic Asylum of the North and East Ridings of Yorkshire.

First and Second Reports on the Health of Towns. By the Committee of the Royal College of Physicians. Edinburgh, 1849.

The British American Journal of Medical and Physical Science. April 1849.

On the Origin, Spread, and Decline of the Epidemic Fevers of Sierra Leone. By Alexander Bryson, M.D. R.N.

A Guide to the Use of the Buxton Waters. By W. H. Robertson, M.D. 5th Edition.

Bulletin général de Thérapeutique. 15 Mai.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 29·83
" " " Thermometer[a] ...... 45·5
Self-registering do.[b] .... Max. 85·7 Min. 26·7

[a] From 12 observations daily. [b] Sun.

Rain, in inches, ·06.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 9° below the mean of the month!

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, May 12.

Births.		Deaths.		*Av. of* 5 *Spr.*	
Males....	756	Males....	474	Males....	494
Females..	723	Females..	431	Females..	469
	1479		905		963

Causes of Death.		*Av. of* 5 *Spr.*
All Causes	905	963
Specified Causes	903	959
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*..	266	198
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	48	48
3. Brain, Spinal Marrow, Nerves, and Senses	98	123
4. Heart and Bloodvessels	57	39
5. Lungs, and other Organs of Respiration	131	131
6. Stomach, Liver, and other Organs of Digestion	54	62
7. Diseases of the Kidneys, &c...	9	11
8. Childbirth, Diseases of the Uterus, &c.	9	8
9. Rheumatism, Diseases of the Bones, Joints, &c.	9	8
10. Skin	0	1
11. Old Age.....	39	50
12. Sudden deaths	11	11
13. Violence, Privation, Cold, &c.	13	33

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	12	Convulsions	32
Measles	33	Bronchitis	46
Scarlatina	40	Pneumonia	66
Hooping-cough ..	46	Phthisis	129
Diarrhœa	11	Dis. of Lungs, &c..	7
Cholera	3	Teething	6
Typhus	33		
Dropsy	19	Dis. of Stomach, &c.	4
		" Liver, &c...	13
Hydrocephalus....	24		
Apeplexy..........	17	Childbirth	4
Paralysis	13	Uterus............	0

Remarks.—The total number of deaths was 58 *below* the weekly spring average.

NOTICES TO CORRESPONDENTS.

Notice.—In order to prevent delay in the insertion, it is particularly requested that all letters enclosing advertisements be marked on the outside "*Advertisement.*"

The correspondence in reference to the Early Closing Association is unsuited to our pages. It should be addressed to a daily journal.

A small practical work on the Efficacy of the Iodide of Potassium in the treatment of Gout, Rheumatic and Syphilitic Gout, by Mr. T. Spencer Wells, will shortly be published.

THE GENERAL INDEX.

We have to announce to our Subscribers that a General Index to the *first* 40 *Volumes* of the London Medical Gazette will, it is calculated, form a large Volume of about 700 pages. The cost of the Index Volume, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. Wilson and Ogilvy, 57, Skinner Street, will receive the Names of Subscribers.

London Medical Gazette.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

By Bransby B. Cooper, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture LVI.

DISEASES AND INJURIES OF THE VASCULAR SYSTEM.

The vascular system — arteries—veins—lymphatics—organization of arteries—functions of the arterial coats — diseases of arteries — inflammation, diagnosis, treatment, and post-mortem appearance — chronic inflammation of arteries—its usual effect—produces either atheromatous or bony deposits—ossification of arteries in old people.

Aneurism by anastomosis—*causes of the disease— characteristics, sometimes congenital, as nævi—treatment, by topical applications, by pressure, injection, &c.—cases—operation for the cure of nævus* — Fig. 1 — *Mr. Liston's ligature* — Fig. 2—*Cases.*

Dilatation of Arteries—*how produced —direction of the dilatation—diagnosis —treatment.*

Aneurism *divided into* true *and* spurious—*spurious aneurism—how produced —cases.*

The vascular system in animals is composed of three different classes of vessels—viz. the arteries, veins, and lymphatics: these constitute the means of conveying nutrient matter to the different parts of the body. The vessels through which the fluids circulate must not, however, be considered as mere hydraulic tubes; they possess an organization as perfect as that of any of the other tissues, and are themselves furnished with a system of vessels termed the vasa vasorum, the function of which is to supply them with the blood required to preserve them in a state of integrity. The arteries constitute the most important of the vessels of the animal body, as they convey throughout its different structures the fluid from which those structures are all immediately derived, and on a due supply of which they depend for the preservation of their normal condition. The arteries are derived from two main trunks, but they divide into innumerable branches, and ramify to terminate in the capillaries of every tissue. The capillaries are endued with the power of appropriating the blood conveyed by the arteries to the use of every one of the tissues: but the whole of the blood is not thus appropriated by the capillaries, and the superfluous quantity is received by another set of vessels termed veins; by these it is re-conveyed to the heart, and in its refluent course receives the chyle (produced by the process of digestion) through the medium of the thoracic duct. The veins commence from the capillaries in an infinite number of minute ramifications, and terminate by two large branches in the left side of the heart.

The absorbents are divided into two classes—those which convey the chyle into the veins, and which are termed the lacteals; and others, called the lymphatics, which absorb the debris of the exhausted tissues, and other extraneous matters introduced into the body. The lymphatics take their course in close contiguity to the veins, and by a process termed endosmosis and exosmosis an interchange of the contents of these different classes of vessels is continually going forward. Many physiologists have supposed that the veins possess the power of themselves absorbing disintegrated tissue, but it seems to me that the reciprocal action between the lymphatics and veins explains the phenomena of absorption in a much more satisfactory manner.

Organization of arteries.—It would be unadvisable to commence at once upon the diseases to which the arteries are obnoxious, without briefly considering the character of the tissues which enter into the composition of these vessels, and the function for which each of the tissues is intended.

The arteries are composed of three coats, connected with each other by a distinct layer of delicate cellular tissue, furnished with its peculiar system of capillaries (vasa vasorum), to convey to each coat such constituents as fit it for the performance of its specific office in the animal economy.

The first of the arterial coats is termed "the external or elastic coat:" this seems to be formed by a condensation of the surrounding cellular tissue, strengthened in some situations, if not in great measure produced, by the splitting of the fascial covering of the region, as in the neck and extremities; some of the "yellow elastic tissue" may, however, generally be detected, blended with the reticular fibres. The external coat constitutes the principal source of strength in an artery, especially in the longitudinal direction: its elasticity at the same time permitting all the various motions and contortions to which the vessel is exposed in the different positions of the body. When, therefore, any action arises in the capillaries of the external coat rendering them incapable of eliminating from the blood the elements essential to maintain the normal physical conditions of

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the tunic, the integrity of the vessel is destroyed, and some form of disease becomes at once established.

The second is the "middle," or, as it is often called, the "muscular coat of the artery." It is composed of fasciculi of fibres, closely resembling in arrangement the involuntary muscular fibres of the intestines. They differ from the latter, however, in colour, and in their want of contractile power. The fibrous membrane of which the second coat is composed seems to consist of fibres of "yellow elastic tissue," united by condensed cellular membrane; and it is by the physical elasticity of this structure, and not by possessing any vital power of contraction, that the middle coat of an artery assists in the circulation of the blood.

The third coat is called the internal or serous coat. This must be regarded as the most important of the three: it is said to extend continuously throughout the whole of the vascular system, and is peculiar from its forming the semilunar folds or valves at the commencement of the two primary arterial trunks. The internal coat is a thin white diaphanous membrane, consisting of a distinct arrangement of fibres, which, under the microscope, may be seen intricately intersecting each other, so as to form a dense resisting and elastic membrane, resembling in appearance the serous membrane. Like them it is also constantly moistened by a serous secretion eliminated from the blood by the capillaries. Under inflammation, the third arterial coat is very liable to throw out adhesive or plastic effusions.

The flow of the blood through the arteries is greatly facilitated by the extreme smoothness of the lining coat, as well as by its elasticity.

If an artery be much stretched, or tightly compressed by ligature, its middle and external coats give way; but the external coat, from its superior elasticity, may again recover its normal condition. A knowledge of this circumstance, and also of the tendency of the internal coat to undergo the adhesive inflammation, led John Hunter to the bold experiment of applying a ligature around a living artery on the proximal side of an aneurism, so as permanently to stop the supply of blood to the tumor. The internal coat of an artery seems also to possess some vital power which tends to maintain the fluidity of the blood: for if there be any defect in the capillaries of that tissue, so that its necessary amount of nutriment be not supplied, or there be any deposit on its surface, or the tunic, from the loss of its elasticity, should have given way, a small coagulum of blood will at once be formed at the spot where the deterioriation has occurred; and I believe such an effect to be almost always antecedent to the formation of aneurism. If any deduction can be drawn from experiments upon the lower animals, I should judge that aneurism, as a disease, invariably commences in deterioration of the internal coat of the artery; for in a series of experiments which I instituted on this subject, I found that I could not by any means applied externally to the artery of a dog, produce an abnormal dilatation—every experiment failed, in consequence of the healthy internal coat immediately sealing up the vessel by plastic deposition.

DISEASES OF ARTERIES.

Acute inflammation.—The arteries being supplied with blood by capillaries in a similar manner to the other tissues of the body, are equally liable with the latter to take on an inflammatory action: this may terminate either in resolution, adhesion, suppuration, ulceration, and, more rarely, mortification.

The symptoms of inflammation in an artery must always be very difficult to appreciate when they arise from a constitutional cause; but when they follow the application of a ligature in amputation, or for the cure of aneurism, the extension of pain in the constricted vessel naturally leads to the inference that inflammation of the artery has set in. But even here the diagnosis is liable to be incorrect, as the pain may be occasioned by a filament of a nerve being included in the ligature. In that case, however, the peculiar pain or numbness, and its extension in the course of the distribution of the nerve, would probably lead to the formation of an accurate judgment. The implication of a vein may also be a source of considerable difficulty; but as the treatment would be the same whether artery or vein were the subject of inflammation, the necessity for an exact diagnosis is less important. If, after lesion of an artery or the application of a ligature, symptoms of inflammation manifest themselves, under the form of pain, along the course of the vessel, increased action in the part supplied by its branches, and the constitutional effects usually concomitant with inflammation, antiphlogistic remedies must be employed, and small doses of tartarized antimony and opium will be found very useful, as a means of lessening the action of the heart, and the quantity of blood sent to the diseased vessel. If the patient be of a pale and sanguineous habit, blood may be abstracted, for it is very important that the inflammation should be subdued in its earliest stage, so as to terminate by resolution, or adhesion, as either of the other results of inflammation might extend so as to render the vessel totally incompetent to carry on the circulation.

Depletion must not, however, be carried too far, as the action of the heart would then be increased, although its power may be diminished. Where amputation or the application of a ligature for aneurism have proved unsuccessful, and the case has terminated fatally, opportunities have been obtained of examining the state of the artery that has suffered the lesion; under such circumstances the internal coat of the vessel has been found to be of a vivid red colour, and manifesting all the usual signs of acute inflammation. This appearance can, however, scarcely be appreciated in the small extent of surface affected, without the aid of a microscope; and it must not be mistaken for the redness frequently seen in the inner coat of an artery after death, and which is produced by the deposition of the red corpuscles of the blood: in the latter case the stain is only superficial, and may easily be wiped off, while in inflammation the redness is permanent, resulting from a turgescent condition of the capillaries of the lining membrane, and, indeed, even extends to the middle or muscular coat of the artery.

When adhesive inflammation is induced by an injury to an artery, obliteration of the vessel soon follows, in consequence of the tendency in the internal coat to deposit coagulable albumen (fibrin): this result is indicated by the loss of pulsation in the lower part of the trunk, and by the enlargement of the collateral branches, which enables them to perform the office of the original vessel: but as there can be no doubt that this arrangement interferes to some extent with the nutrition of the tissues thus abnormally supplied with blood, every effort should be made, in cases of idiopathic inflammation, to restore the integrity of the injured artery, by inducing resolution as the means of reparation.

In cases of diffused abscess of the cellular membrane, the nutrition of an artery is sometimes so much interrupted as to produce disintegration and absorption of a portion of its coats; this is termed ulceration: it may likewise occur from extension of a phagedenic ulcer to the coats of the vessels; in either case hæmorrhage would be the result: and it is therefore proper, when a chronic abscess is seated in the neighbourhood of large arteries, to be cautious in the examination before the fluid is evacuated, for a diffused aneurism may exist, in which the pulsation was lost in consequence of the general diffusion of the blood from the loss of the surrounding cellular membrane. Owing, however, to their great tendency to deposit adhesive matter, arteries generally become early obliterated after injury, so that bleeding in consequence of ulceration is of very rare occurrence. Hæmorrhage from sphacelus of an artery is also very unusual; for the coagulum of blood formed in the gangrenous part of the vessel extends upwards into the healthy portion, the capillaries of which becoming excited by the presence of the clot, throw out adhesive matter, and the vessel becomes obliterated up to the first large branch, and hæmorrhage, even in cases of extreme sloughing, is thus effectually prevented. Sometimes, however, the constitutional powers of a patient are so much reduced as to be incapable of maintaining the adhesive action: under these circumstances hæmorrhages occur: such a termination is extremely unusual.

In gun-shot wounds we have often instances of coagulation taking place to a remarkable extent, and it frequently happens that where, in such accidents, amputation is delayed, owing to collapse or any other cause, the application of ligatures to the vessels is rendered totally unnecessary, the stump receiving nourishment by means of arterial branches anastomosing from above.

Chronic inflammation of the arteries.—This is a morbid condition which can scarcely be discovered during life; but the changes that are so frequently met with in post-mortem examinations prove beyond question that the arteries are subject to sub-acute inflammation. Thickening of the coats is one of the most common effects of the above action; the consequence is a diminution in their elasticity, a change that no doubt often leads to the rupture of the inner coat, and is probably the most frequent cause of aneurism. In the museum of Guy's Hospital there are several preparations illustrative of this condition.

A thickening of the valves of the aorta, in all probability proceeding from chronic inflammation, is very frequently met with; they are sometimes converted into a kind of ligamentous tissue, and thus become completely unfitted for their original important office. This thickening sometimes goes on to such an extent as to create wart-like excrescences, which Corvisart terms "vegetations."

Chronic inflammation sometimes produces atheromatous deposits between the internal and middle coats of an artery, forming projections into the canal so as materially to interfere with the flow of blood through the vessel. It has lately been proved by means of the microscope, and by chemical analysis, that these morbid growths consist of fatty matter, and therefore steatomatous deposit would perhaps be an appropriate term for the disease. The obstruction offered in this disease to the circulation of the blood often produces distension of the vessel above the deposit, and in some cases becomes an exciting cause of aneurism, These deposits are not by any means uncommon, as the numerous preparations in our hospital serve to prove: its diagnosis during life is very difficult, unless it be situated where auscultation can be employed in the investigation, as in the aorta: in that case a bruit would be present from which the true cause of the obstruction could generally be conjectured.

Bony deposits also frequently result from the effect of chronic inflammation; and, indeed, this deterioration is so common in the arteries of old people that it must be regarded, properly speaking, as a change inseparable from senescence, and not as disease. The cause of this action is probably to be traced to a diminution in the power of the capillaries of the bones to eliminate phosphate of lime from the blood; an undue quantity of that earthy matter being therefore carried into the circulation, it is deposited in the more vital parts of the system. Under certain diseased conditions young persons are liable to the formation of these deposits of bone-earth, or ossification of arteries as it is termed.

A frequent result of ossification of the arteries, especially when it occurs in the lower extremities, is sphacelus of the limb, in consequence of the imperfect nutrition which the rigid arteries are capable of supplying to parts distant from the heart; it is therefore very desirable to prevent wounds of the toes or extremities in old people, and also to maintain, by topical means, the normal temperature in the limbs. Ossified arteries are liable to disruption; the vessels of the brain sometimes give way under these circumstances, inducing coma, to which I think the term "senile apoplexy" may be aptly applied.

The presence of ossification of the arteries may be diagnosed, particularly in old people, by the irregularity of the circulation, and, when the vessels of the extremities are affected, by the tangible rigidity of the diseased vessel. Ossification of the coronary arteries of the heart produces a train of symptoms which constitutes the well-known disease termed "angina pectoris." Gouty and rheumatic diatheses seem to be especially liable to morbid depositions in the arteries; it is therefore highly important, in acute attacks of rheumatism or gout, to entirely subdue the specific action as early as possible, so as to prevent it from passing into the chronic form, under which there is always considerable tendency to the various depositions I have described, all of which are more or less likely to produce aneurismal dilatation.

Aneurism by anastomosis.—This disease is produced by an unnatural distension of the arteries in any part of the surface of the body: it may either be the result of external injury, or may exist as a congenital conformation. I have never in my own practice known a case of this disease arising from an accidental cause, although I have witnessed its development during the period of adolescence, without the patient being at all conscious of any congenital predisposition to it. The disease is seated in the vessels of the subcutaneous cellular tissue, and they appear to be in a state of extreme congestion, as if an attenuated or atonic state of their coats rendered them incapable of contracting upon their contents, and consequently unable to carry on the normal circulation: the collateral branches become in their turn enlarged and similarly distended, and so, by involving the surrounding vessels, the disease goes on gradually increasing: the veins of the affected structure at the same time undergoing a change analogous to that produced in its arteries. The tumors formed by this disease are easily emptied of their blood by very slight pressure; but as soon as the force is removed they rapidly fill again; not however in the same way as a true aneurismal sac refills after the blood has been pressed from it, but in a gentle, gradual manner, like the imbibition of water by a sponge. These tumors frequently pulsate, but it is rather a species of vibration communicated to them from the surrounding healthy arteries, than pulsation existing in those which constitute the tumor itself. Owing to the readiness with which the blood is pressed out of it, the swelling is very compressible, the skin becoming much paler; as soon, however, as the blood is allowed to return, the abnormal red or bluish tinge of the tumor is resumed. When handled, these swellings give the idea of a spongy or doughy structure intersected by permeable canals, and feel, under the hand, like a portion of distended spleen.

Although the skin covering these abnormal erectile tumors sometimes experiences but little change in colour, at others it appears of every variety of tint, from a mere blush to a dark mulberry colour; but in most cases excitement of any kind induces a temporary deepening of the colour, and in a fit of passion or coughing the swelling becomes inordinately distended, and has in some cases been known to burst and give rise to a dangerous hæmorrhage: in females, at the age of puberty, periodical bleedings sometimes occur from these tumors, as from menstrual ulcers: under such circumstances no measures for the removal of the tumor ought to be taken until a healthy uterine action has been effected by the administration of appropriate constitutional remedies.

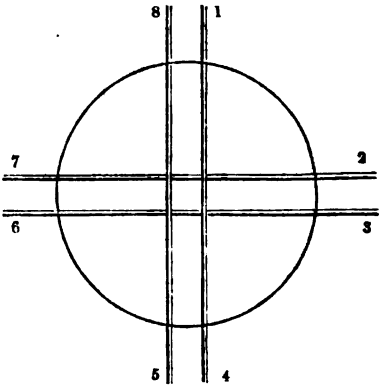
When these tumors are congenital, they are generally termed nævi materni: they evidently result from arrest of nutrition in the coats of the affected arteries, and therefore the disease may be said to originate in the vasa vasorum, and not in the arteries themselves. Indeed, even when the disease commences subsequently to birth, it without doubt depends upon a defective condition of the *coats* of the arteries, and not upon an excessive action in the vessels; the disease must consequently be regarded as one of an atonic character.

If this affection be produced, as it sometimes is, by external violence, the vessels of the injured tissue become distended by the abnormal quantity of blood sent to the part, and which exceeds the amount of fluid which the vessels are capable of propelling: permanent congestion results, constituting the disease now under our consideration; but I cannot bring myself to believe that such an effect would be produced by external injury upon originally healthy vessels, unless by altering the action of the capillaries themselves. These tumors should be at the earliest possible period subjected to proper surgical treatment, as the danger and difficulty of cure are increased in proportion to the size they are permitted to attain. In infants the affection is generally congenital, occuring as nævus, and at first is so superficial and small in size, and differs so slightly from the surrounding parts in colour, that it scarcely possesses the physical characteristics of aneurism by anastomosis, and seems to be, indeed, a mere hypertrophy of the rete mucosum, being usually situated in the integument of the face, neck, or some other highly vascular part. These spots sometimes disappear spontaneously, and if but small and not much raised above the skin, I have known them removed by merely keeping the surface constantly wetted with a strong solution of alum. If this remedy prove effectual, it will be known by the nævus becoming hard and colourless, as if its blood had become coagulated: nitric acid is also sometimes employed, but it produces a slough, upon the separation of which there is great liability to hæmorrhage, and as children bear the loss of blood very badly, I do not consider the use of this powerful agent safe. Pressure upon the cellular tissues surrounding the nævus is sometimes resorted to, the intention being to cut off the supply of blood to the part: the best way of effecting this is to make a plaster of Paris cast of the tumor, and when this has become hard, to bind it upon the part with sufficient force to prevent its receiving nourishment from the surrounding vessels: as the size of the tumor decreases, thin layers of lint must be placed in the plaster mould, to enable the pressure to be kept up; but this plan of treatment can only be adopted when the swelling is situated over bone, as in the scalp; and many years ago I remember a case being thus successfully treated by Mr. Hodgson, of Birmingham, who then lived in London. I have twice adopted this plan, but unsuccessfully, and was obliged to proceed to other means. Injections into the erectile tissue are sometimes employed: weak solutions of iodine, corrosive sublimate, and alum, have all been used, and with success. I have myself several times injected nævi with a saturated solution of alum, as in the following case:—

A child of a poor woman, about six months old, was brought to me with a nævus near the ala of the nose, extending to the corner of the mouth: it was prominent, compressible, the skin of a strawberry red colour, and the growth of the tumor had been very rapid. I procured a "lachrymal duct syringe," and making a very small opening in the healthy skin, close to the circumference of the tumor, injected half a drachm of the solution of alum into the erectile tissue: the colour of the skin was immediately changed to a blue or slate colour. I desired the surface to be kept constantly moist with a solution similar to the one I injected, and the disease was soon entirely removed, without a single bad symptom. Mr. Longmore, junior, of the Borough Road, sent me a case of a nævus, in the side of the cheek, which I inoculated with vaccine matter,—a plan which has been said to prove effectual in curing this disease: the treatment proved, however, unsuccessful in this case, and I injected the tumor with alum, and treated it as in the case described above, with complete success. In several other cases I followed the same plan, with the happiest results: in all these, with one exception, the nævi were on the head and face, and that was in the arm. After this series of successful cases I was consulted by the wife of a clergyman in Suffolk, whose child had a large nævus on the inner side of the thigh: the tumor was very compressible, and communicated more than usual thrilling sensation, as the blood was circulating through the tissue. With the confidence inspired by my former success, I proceeded to inject the tumor with a solution of alum, as before described, but employed a larger syringe, in consequence of the greater size of the tumor. The child did not at the time appear to suffer more than is usual in such cases, but towards the evening of the day of the operation I was sent for, in consequence of its excessive uneasiness. I found it suffering under a high degree of irritative fever: the thigh was much swollen and inflamed. I immediately ordered a dose of calomel and antimony, and applied fomentations to the limb, but for three or four days the child remained in the most imminent danger. The aneurismal swelling then sloughed, and a deep and extensive wound was the result; but the child's powers of constitution carried it through both the acute attack and the protracted process of reparation. I have no doubt that in this case the injected fluid became immediately mixed with the blood, and reacting upon that fluid, either produced some change in it, rendering it unfitted for the purposes of life, or otherwise inflammation in the veins, termed phlebitis. I have never since ventured upon the repetition of this operation, and am now, upon mature consideration, more surprised at the fortunate termination of the former cases, than at the result in that last described; for what can be more likely to lead to extensive constitutional mischief than the probable immediate introduction of a powerful chemical agent into the blood? I have therefore decided upon never again venturing upon injection where the nævus is of large size.

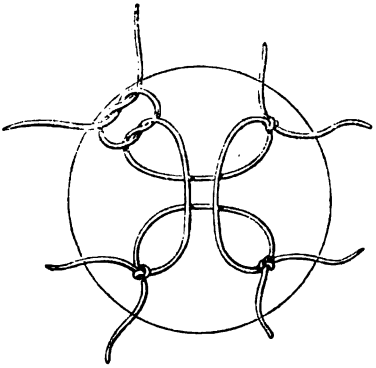
The application of a ligature around the base of such tumors is a means frequently adopted for their cure, and seems indeed to be the safest mode of removing them: excision should not, in my opinion, be employed for that purpose, for in many instances I have known the lives of children placed in great jeopardy in consequence of the operation, as it is almost impossible to secure every vessel by suture, and indeed, where under such circumstances the bleeding is excessive, the actual cautery is the only means by which it can be checked. Sir Astley Cooper mentions a case in which he had applied nitric acid to a nævus situated at the outer angle of the superciliary ridge, and in which, when the slough came away, a severe bleeding occurred, which could only be stopped by the actual cautery. When ligatures are employed, the kind to be used depends upon the size of the swelling and the looseness of the skin in which it is situated. In a small nævus on the cheek or lips, the simplest kind of ligature is sufficient: it may be applied by passing two small needles through the base of the tumor at right angles to each other, placing the ligature under them and around the whole mass, as tightly as possible, so as to completely constrict the vessels by which the swelling is nourished. The ends of the needles may then be cut off short, or if the base of the swelling be but small, they may even be withdrawn. As the tumor ulcerates, the ligature of course becomes loose, and must be replaced by another to keep up the constriction. The implication of the skin causes great pain, and the progress of the sloughing is very slow in this operation, so that it ought only to be employed when the tumor is small. Some surgeons recommend that before the application of the ligature a crucial incision should be made through the skin, which should then be dissected off the subcutaneous erectile tissue, the latter alone being comprehended in the ligature: this plan deviates, however, but little from the total excision of the tumor, as the bleeding in dissecting off the skin is very profuse, and I have been obliged, in attempting this operation, to apply the ligature without loss of time around the whole mass, in order to check the hæmorrhage; and had the tumor been too large to have permitted of this, I believe the patient would have died from loss of blood. The late Mr. Liston always employed, and I think first proposed, a most ingenious arrangement of ligature for the constriction of large nævi: in this operation the tumor is first raised as completely as possible from the subcutaneous structures: a long needle fixed in a handle, but without a ligature, is then passed through its base, below the diseased tissue; a second needle, threaded with a double ligature, is passed in a similar manner, but at right angles to the first; the first needle is next threaded, and both then withdrawn, leaving the ligatures in the tumor; the loop of each double thread is next cut, so that four single threads now cross the swelling, each with two free extremities (see Fig. 1, in which the extremities are numbered for reference.) In securing this system of ligatures, extremities 1 and 2 are first tied, without being tightly drawn; 3 and 4 are next tied, 6 being held by an assistant to prevent its being drawn through; 5 and 6 are then secured, 8 being held; and, finally, 7 and 8 are tied as tightly as possible, and as they command all the others, the degree of constriction depends entirely on the manner in which they are secured. (See Fig. 2, from Mr. Liston's "Practical Surgery.")

Fig. 1.



I have myself employed this ligature in four or five cases, and am convinced by experience of its great utility: on one occasion

FIG. 2.



I modified the operation for the purpose of avoiding the constriction of the skin: the modification I speak of consisted in making a section of the skin in each fourth of the tumor included between the pairs of ligatures, so that when the latter are tied the constriction is confined to the subcutaneous structures, leaving the integument comparatively free. One of the advantages derived from this segmental division of the skin is found in the immediate stoppage of bleeding as soon as the two ligatures are tied, including the portion incised; while if the whole circumference were included in a continuous section, the hæmorrhage could not be stayed until all the ligatures were secured, during which time a dangerous loss of blood might occur.

Dr. Lewis, of Finsbury Square, sent me a child who had a large nævus on the extremity of the chin, extending upwards towards the left corner of the mouth: as the skin was very loose, and the tumor compressible, I did not in this case think it necessary to divide the skin as I have just described, but included it in the ligature: upon the completion of the operation I found that a portion of the tumor, about the size of a large pea, had escaped the constriction, but I did not regard this as a matter of much importance, believing that the subsequent inflammation of the tied mass would produce the obliteration of the vessels of the unconstricted part as well as those included in the ligatures: my expectation was not, however, realized, and a fresh ligature was required to remove the remaining part of the tumor. Mr. Wilkinson, of Princes Street, brought a child to me with a nævus on the lower lip: the tumor was about the size of a hazel nut, and projected more into the mouth than it did externally: the skin was not much discoloured. In this case I determined upon applying the ligature to the mucous surface on the inside of the lip: I effected this very easily, and so far effectually, that the constricted part soon sloughed off; but as the wound cicatrized, the lip became inverted, and produced considerable deformity: this was, however, permanently removed, by dividing the frænum and mucous membrane of the lip at its point of reflexion from the lip to the gum.

A young lady, Miss G., consulted Sir Astley Cooper for a large erectile tumor of the class I am describing: it occupied the space between the coronal suture and the right superciliary ridge: it was easily compressible, and a thrilling noise was audible, caused by the passage of the blood through the tumor. The skin was of a dingy brown colour, but became converted into a dark red under the least excitement; large tortuous and strongly pulsating arteries could be seen and felt entering the tumor, running from the occipital, temporal, and supra-orbital branches: on the right side the arteries were much larger than on the left, and when pressure was made upon these vessels, the tumor became flaccid and smaller. This latter circumstance induced Sir Astley Cooper to put ligatures upon the vessels leading to the tumor, in the hope of cutting off the supply of blood; but as soon as one vessel was obliterated another anastomosing branch became enlarged, and an equally large quantity of blood was sent to the swelling; and although four large branches were successively tied, the disease continued without abatement. Pressure was next tried, but this also proved ineffectual. Miss B. then consulted Sir Benjamin Brodie, and he applied ligatures for the constriction of the tumor, and ultimately succeeded in curing the disease.

My colleague, Mr. Cock, has now under treatment a patient with a tumor very similar to that just described. Mr. Cock commenced by tying the large arterial trunks supplying the tumor with blood; but this, as in Sir Astley Cooper's case, proved totally ineffectual. He next adopted Mr. Liston's ligature, but modified its application as follows: instead of including the portion of skin between the extremities of the ligatures 1 and 2 (vide Fig. 1), he passed ligature 1 beneath the skin, bringing it out close to No. 2, and, tying them tightly, constricted the part subcutaneously: this was repeated with the other ends of the ligatures; and thus, instead of constricting the tumor and skin together, the erectile tissue alone was comprehended, the skin remaining intact. In the course of a few days the swelling had diminished to half its original size, pulsation was entirely checked, and the skin had almost recovered its natural colour; the swelling, also, felt as if it were converted into a fibrous structure. This improvement was, however, only temporary; pulsation returned to some extent, and when the patient is excited the tumor assumes something of its former appearance: it still, however, continues considerably diminished in size. It is the intention of Mr. Cock to attempt some further means for the cure; but I believe that he is not very sanguine as to the result, for in this case there is a general hypertrophic tendency throughout the whole of the arteries of the skin of the face.

Dilatation of arteries.—The arteries are liable to a change in their physical condition, inducing a dilatation which can neither be classed with that just described, nor considered as true aneurism. This condition is produced in an artery by the loss of the natural elasticity of its coats; so that, when the vessel is distended by the impulse of the blood, it is incapable of contracting to its original size, and consequently becomes gradually but permanently more and more dilated. This change does not generally extend to the whole of the circumference of the artery at the dilated part, but is confined to a circumscribed space, and frequently seems to be produced by the blood impinging more forcibly on one point of the artery than at another: thus it is found that this dilatation is very frequent at the point in the ascending aorta where that vessel commences its course to form the arch, and where it naturally receives the strongest impulse of the blood as it is propelled from the heart. Dilatation is also frequent at the origin of the cœliac axis; but these enlargements do not constitute true aneurism, as the continuity of all the coats of the artery remains undisturbed, and the blood flowing through the vessel retains its fluidity: while aneurism is produced by the internal coat giving way, and coagulated blood is invariably found in the pouch formed in consequence of that lesion. Dilatation of an artery must not, however, be attributed exclusively to physical causes; for in such cases there can be no doubt that some morbid change is first produced in the coats of the vessel by defective nutrition, probably referable to an altered action of the vasa vasorum. The direction in which the dilatation takes place depends upon the resistance offered by the surrounding parts, being always towards that side on which the resistance is least. If the obstruction be equal on every side, the direction of the dilatation will be governed by the impulse of the blood: for instance, in the ascending aorta the enlargement would be upwards and to the right; in the arch of the aorta, upwards and backwards; in the carotid it would be outwards, in the abdomen forwards, in the axilla downwards, in the groin forwards, and in the popliteal region backwards. The diagnosis between dilatation and true aneurism is often extremely difficult: if it be situated in the ascending aorta, it may press in the same manner as true aneurism upon the superior cava, and thus interfere with the return of the blood to the heart; the impediment is, however, less in degree, and not permanent; the bruit is also very indistinct, if present at all; and from these differences a tolerably correct inference can generally be drawn. The constitutional treatment would be the same in either case: in both the great object would be to keep the patient free from excitement, such remedies being at the same time employed as tend to diminish the action of the heart; nourishing but non-stimulating diet should also be permitted, so that the powers of the constitution may be maintained, in order to prevent the accession of that irritability inseparable from depletion. If, however, the patient be of a full habit, the abstraction of small quantities of blood will produce the most beneficial effects. I believe, indeed, that dilatation of an artery may be permanently cured by the employment of these means, which operate by restoring the healthy action of the vasa vasorum, which are thus rendered capable of conveying to the arterial coats their normal supply of nourishment.

ANEURISM.

Aneurism may be divided into two kinds—spurious and true aneurism.

Spurious or diffused aneurism may be produced by puncture in an artery, the integument having healed over the wound; or by the rupture of the vessel without any external wound; or, thirdly, it may arise from a diseased state of the coats of an artery which are rendered incapable of withstanding the natural impulse of the blood. Under either of these conditions the blood becomes diffused into the surrounding tissues, unconfined by any sac beyond that formed by the inflammation ultimately induced in the surrounding cellular membrane by the presence of the blood.

Aneurism arising from puncture of an artery will be more conveniently treated of when I speak of wounds in the arteries. I shall therefore at present direct your attention to what is termed *diffused aneurism*. This affection, arising from the rupture of a large artery, without any external wound, is of very-uncommon occurrence. The following case offers, however, a good example of this injury:—

A patient named Weever was brought into Guy's Hospital with simple fracture of the thigh-bone. From the extent of tumefaction, the splints could not be applied for some days; and when they were placed on the limb, in producing the coaptation of the fractured bones, the patient expressed his conviction that something had given way in his leg, and a sudden increase of swelling took place. In the afternoon of the same day my attention was called to the patient, and, upon examination, I found a large fluctuating tumor, strongly pulsating. It immediately occurred to me that the femoral artery had been lacerated, and this view was corroborated by the circumstance that neither the anterior nor posterior tibial arteries could be felt at the foot. I now at once determined upon cutting down upon the femoral artery, which I did without removing the patient from his bed. I made the incision in the upper third of the thigh, and as soon as I had applied the ligature to the femoral artery, the pulsation of the tumor ceased, the effused blood was gradually absorbed, and the fractured bone united with more than usual rapidity. The latter circumstance may, perhaps, be accounted for by the fact that the obliteration of the superficial femoral artery caused a greater quantity of blood to be sent to the bone by means of the profunda branch.

About three years ago I was sent for to Bishops Stortford to a case of severe fracture of the thigh, in which there were indications of extensive effusion of blood; but as there was no pulsation, it was very difficult to ascertain whether an artery or vein had been lacerated; for the absence of pulsatory motion was not of itself sufficient to prove that a vein only was ruptured, as the pressure arising from a large effusion of blood might be sufficient to prevent pulsation even if an artery were the subject of the lesion; and, as in this case the limb had been placed by the medical attendant in a good position, I did not interfere with his arrangements. Three days after, however, I paid another visit to the patient, when I found the tension of the limb much diminished, and pulsation still absent. These circumstances proved both that the hæmorrhage had ceased, and that the effused blood was venous. As the quantity of blood had been originally very great in this case, I thought it better, although it is not usually my practice, to make an opening in the upper part of the thigh for the evacuation of the accumulated fluid. This patient also recovered, but the union of the bone took place but slowly. Although this was not a case of lacerated artery, I have introduced it in this part of the subject to show the difficulty that may occur in the diagnosis between rupture of an artery and that of a vein.

The sudden giving way of an artery from disease is a very rare occurrence: there are, however, some cases recorded in which the aorta has burst from the force of the blood, without the formation of a true aneurism, the patient dying from extravasation of blood into the cavity of the abdomen. The arteries of the brain seem more susceptible to this lesion than those of any other part of the body, and the basillary artery has been known to give way without passing through any of the ordinary steps of aneurismal disease.

Original Communications.

CONTRIBUTIONS TO PATHOLOGY.

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[Continued from page 855.]

Series II.—Lesions of the heart and great vessels.

Case XXXV.—*Aortic aneurism, ruptured.*

H. D., a male, æt. 40, had been for four weeks in the hospital, complaining of a little cough, some dyspnœa and dyspepsia, but principally of a dorsal pain, either sitting or lying down, and which at times was better or absent; eye quick and bright; pulse always quick, frequent, soft, but not full. He died suddenly after taking his breakfast, the 8th Feb. 1845.

Aneurism or diseased dorsal vessels diagnosed.

Insp. cad. — Corpse: fair embonpoint, well formed; pupils contracted.

Chest.—About five pints of coagulated blood in the left cavity, with about 8 oz. of supernatant serum; coagula effused over and between the lobes. On injecting water by the aorta, it was found to issue from an orifice one quarter of an inch in diameter, and obliquely through half an inch of the posterior part of the lung, over the aorta, and opposite to the fourth dorsal vertebra. The aorta was here found dilated into an irregular sac, which was about the size of an orange, and situated on the front of the vessel; it was internally unequal and rugose, having only a small papillary fibrinous coagulum attached. Its anterior walls were mostly formed by the outer coats of the artery and condensed tissue. Aorta healthy below, but atheromatous round the sac's mouth, and slightly so towards the arch.

Heart.—Normal, but soft, and rather dark coloured.

Some old pleural adhesions; lungs, liver, spleen, and kidneys normal; the latter organs pale.

CASE XXXVI.—*Endocarditis—Valvular disease—Ulcer.*

J. H., female, æt. 31, married, had one child, tall, well-formed. Was in hospital two months, complaining of oppression at the chest, without cough or dyspnœa, and of slight pain about the præcordia. Tongue clean; no thirst; skin warm; urine spare, red, and sedimentous; bowels natural; pulse always very frequent and quick. She gradually sunk from oppressive weight, and dull pain in the præcordia, along with bloody sputa, on the 20th December, 1845.

Diagnosis.—Lesion of the mitral valves, with hydro-pericarditis.

Insp. cad.—Embonpoint much reduced.

Lungs.—Slightly adherent to the costæ by old fibrinous strings; normal, with some moribund congestion in the upper and posterior parts. There were no tubercles, but 6 oz. of fluid in both cavities of the chest.

Heart.—Pericardium contained 8 oz. of clear yellowish serum, without any parietal phlogosis or roughness. The organ weighed 18½ oz., and was firm and red. Left ventricle hypertrophied, and its walls 1¼ inch thick, with buffy fibrinous clots, and streaks attached interiorly. Semilunar valves totally corrugated, and thickly beset with whitish vegetations, large and hard, but not osseous. An abraded ulcer was under one of them on the cardiac side, surrounded by lymphous shreds. Aorta was normal; mitral valves thickened; orifice small, and surrounded with bead-like granules of lymph; right ventricle and auricle large, but healthy.

Spleen.—Oblong, coarse, granulated, and dark red; weight, 16 oz.

Kidneys.—Normal in structure, but hyperæmiated.

Liver.—Weight 5 lbs. 1 oz., smooth, and dark, mottled on the surface; on section, bloody, coarse grained; hyperæmia in both the hepatic and portal veins. By microscope, some oil-ovules, both free and in the cells; by analysis, a trace.

Uterus.—Normal, with a small polypous shred internally. *Ovaria* large, but natural, with some cicatrices. *Œsophagus:* submucous coat emphysematous.

CASE XXXVII.—*Hypertrophia cordis—Defective valves.*

W. S., a male, æt. 45; no history: died 18th January, 1846.

Insp. cad.—Corpse full formed, and of good *physique.*

Lungs.—Both beset with hypostatic pneumonia, which in some parts approached to semigangrene.

Heart.—Very large, weight 26 oz. avoir.; left ventricle much hypertrophied, with its walls one and half inch in thickness. Aortic valves deficient in form; corpora aurantii much enlarged and tuberculated. Aorta thickened, and interiorly rough from extensive vascular lesion of its serous coat.

Liver.—Of the nutmeg character, with well-defined hepato-venous congestion. Other organs not examined.

CASE XXXVIII. — *Hydrothorax — Morbus cordis—Ossification.*

J. O. H., male, æt. 46, one month in hospital: died 7th March, 1846.

Insp. cad.—Stout, fair embonpoint.

Chest.—In the right pleural cavity three quarts of fluid, and one in the left.

Lungs—Right nearly normal, subcrepitous, elastic yet spongy, with an apoplectic effusion in the lower lobe. Pulmonary pleura smooth and healthy, except some soft gelatinous bands at the upper part. Left, adherent anteriorly to the costæ and pericardium; dark and engorged; no tubercles.

Heart.—Thickly matted, and adherent all round to the pericardium; and between the two adherent membranes were several rough plates of bone, which surrounded the upper third of the left heart, and to one half of the right ventricle. Walls of the heart were about a normal thickness. *Endocardium* perfectly natural, as well as the inner tunic of the great vessels.

Liver.—Weight 4 lbs. 10 oz. avoir., dark, mottled with dull buff; round and firm. On section, vessels large, portal venous hyperæmia; lobuli large, and granulated continuously. By microscope, cells bluish green, small and diffluent; no fat ovules.

Kidneys.—Large, darkly engorged.

Stomach and intestines.—Natural exteriorly.

CASE XXXIX.—*Caval Phlebitis—Hepatic abscess—Ascites.*

A. S., female, æt. 31, was in hospital two months: she came in with rheumatism and diarrhœa, which last was severe and difficult to control. On its recession, great pain, with distension of the abdomen, ensued, simulating diffuse peritonitis. Pulse small and wiry; she had thirst, while the bowels continued natural in frequency. Urine became scanty, skin hot, and she complained of much anxiety and oppression. Abdomen continued to enlarge greatly, with increased tenderness on touch, and extensive œdema beset the lower extremities. No cough nor dyspnœa beyond what might be occasioned by the encroachment of the abdomen on the chest. Great enlargement and anastomosis of the epigastric and external mammary veins became very conspicuous and interesting.

Three days before death, which took place on the 21st October, 1846, paracentesis was performed to the extent of sixteen pints, without the abdomen being fully evacuated. A full history of this case, with the treatment, will be found in the *Provincial Medical and Surgical Journal*, vol. ii. p. 63.

Insp. cad.—Lungs: healthy, a little adherent to the costæ, and condensed posteriorly, from moribund congestion.

Heart. — Natural; right ventricle small; three ounces of fluid in the sac.

Liver. — Enlarged, obtuse at its edges; grey buff, and a little unequal on the surface. On section, very buffy, and hypertrophied with white parenchyma; interlobular hyperæmia; an encysted depôt, about two inches diameter, of thick creamy pus in the posterior and upper part of the organ, near the pillars of the diaphragm.

Kidneys. — Normal, but hyperæmiated; in the left a urinary shut cyst.

Stomach and intestines.—Much distended with flatus, and had a dark grumous magma in them throughout, but no ulcerated marks on the inner coat of the bowels. There were three pints of serum in the abdominal cavity; the peritoneal coat natural, but a little suffused by red patches.

Vena cava.—From the diaphragm to the iliac veins was filled with lymphous coagula and shreds, adherent to the inner coat, along with pus in several places. These changes were connected with similar ones to a lesser degree in the azygos, renal, and lumbar veins,—all evidently contributing, for some time during life, to the obstruction of the normal return of the venous blood through the vena cava inferior.

Uterus.—Natural, with enlarged and dense ovaries.

CASE XL.—*Morbus cordis — Chronic pleuritis—Uterine tumor.*

A. S., female, married, æt. 45: had been in hospital last spring with bronchitis, dyspnœa, and debility, and after two months went out relieved. She returned six weeks before death, with dyspnœa, some cough, and mucous expectoration, swelling of the abdomen, anasarca of the lower limbs, and occasionally of the face and hands; appetite weak, urine scanty, decubitus difficult; and all her symptoms gradually aggravating, she died from orthopnœa and exhaustion on the 14th November, 1846.

Insp. cad.—Abdomen very tumid; limbs, loins, and hips, œdematous.

Lungs. — Left: free, smooth, and crepitous, with some spongy congestion; otherwise normal. Right: contracted to one half, dense yet elastic: bloody on section; its pleura white, dense, and seemingly undergoing contraction; the remainder of the cavity filled with fluid.

Heart. —Large; excentric hypertrophy of the right ventricle, with a very patent ostium venosum; pulmonary artery large. Left ventricle hypertrophied concentrically; left ostium venosum rough, hard, and contracted, so as not to admit the tip of the little finger. Aortic valves natural, but the mitral ones were dense and contracted, with ossification; no abnormal fluid in the pericardium.

Abdomen.—Full of yellowish serum, without any marks of peritonitis.

Liver. — Large; on section, very bloody; lobuli coarse, the acini being hypertrophied, with interlobular hyperæmia; no oil ovules seen by microscope.

Kidneys.—Pitted and uneven on the surface, but the texture nearly normal.

Pancreas. — Large, and somewhat hard.

Stomach and intestines.—Normal exteriorly.

Uterus.—Natural; but behind it, and pressing into its substance, was a round fibro-scirrhous tumor, the size of the uterus; and also, between the uterus and rectum, there was a cyst of pale white meliceroua matter.

Remarks on the six foregoing cases.

Though the above series of cadaveric cases presents no strange nor very remarkable lesions, yet they are sufficiently important and individualized as to claim our passing notice. The ruptured aortic aneurism was interesting from the obscurity of the diagnosis during life, and from the mode in which the blood had found its way into the left cavity of the chest, which was by a small channel through the posterior part of the lung at its attachment, and this without any extravasation into the pulmonary tissue. It would appear that an atheromatous deposit had first impaired the elastic tenacity of the arterial coats, which, aided by atrophy of their structure, ended in dilatation or ulceration, and rupture. From the aneurism being on the anterior wall, there was no absorption nor caries of the opposite vertebra or cartilage. The 36th case was chiefly remarkable for the weight of the heart in a female, 18½ oz. This hypertrophied condition was, no doubt, primarily owing to the defective mechanism of the aortic valves, necessitating an undue automatic action of the muscular powers of the heart, which, if within the limits of its physical capability, will lead to growth and accretion—in the same way that exercise developes the mass and powers of the voluntary muscles. The ulcer under one of the aortic valves may be noticed as being not very common; and as there was no appearance of atheroma, either in the heart or the aorta, it is probable this lesion was one of the progressive results of the extensive and severe endocarditis. Otto, Bouillaud, and Laennec, take notice of having met with ulcers in the heart, and they were almost always situated in the left side, as our instance was.

The following case is very remarkable for the great weight of the heart, it being 26 oz. avoir.; while a healthy heart weighs, according to Lobstein, only from 8½ to 10 ounces. This author also says that the organ may be increased by hypertrophy to upwards of two pounds. The highest that the author remembers previously to have seen, *in cadavere*, was nearly twenty-two ounces.

The 38th case will be seen to present one of those rare and curious examples of ossified plates on the pericardium—the result of previous pericarditis, under a peculiar condition of the blood. Our rough plates were not analyzed, else they might have proved to have been only calcareous matter: such as an instance related and figured by Dr. Baillie, and adverted to by Rolletschka (Hasse, Path. Anat.) In our case there was no affection of the endocardium whatever—no atheroma.

The case of phlebitis of the ascending cava is very interesting; but as I have elsewhere fully detailed the living history and morbid appearances, I will only further remark, that as rheumatism preceded the lesion, the exudation in the vein was more plastic than purulent; and that a very similar case, with the addition of inflammatory obliteration in the femoral vein, is found in Gaz. Méd. de Paris, 1840, No. 45. The collateral circulation is curious when we consider the mechanism of the valves in the larger veins, and more especially when such a retrograde circulation is set up in cases of obliteration in the descending vena cava; but complete closure of the latter vein is very rare. Hodgson knew no example of it. The last case of the series only suggests that general phlogosis with plastic exudation seemed to have prevailed over the serous membranes during the latter part of life, leading to sub-acute and chronic endocarditis, and its grave results—thickening and lesion of the valves, with ossification; the same diathesis leading to hypertrophy of the acini of the liver, and to the other hyperæmiæ mentioned. As there were no symptoms of scrofula observed, we must attribute the morbid change behind the uterus to some effects of albuminous degeneration, or to a local genesis.

[To be continued.]

A CASE OF TRACHEOTOMY.

By **Joseph Hinton**, M.R.C.S. &c.
Hayes, Middlesex.

Your journals of some months past contained some valuable papers on Tracheotomy, and as it is an operation which does not fall to the generality of the profession, I am induced to offer my mite, however scanty, to the general stock of information.

In the month of November, 1848, a child about three years old was brought to my surgery. I found it to be a fat, short-necked, but apparently healthy child, and on inquiry the attendants informed me that a few hours before, the child had swallowed some boiling water out of the kettle; that it soon became irritable, with great difficulty of breathing, &c., and that whilst crossing the fields to my house, they at one time thought it dead.

The respiration was certainly laborious, but at first it did not strike me as sufficient to justify an operation. While they remained, however, the countenance became livid, and respiration very obstructed, and I therefore did not longer hesitate to enforce an operation, which alone seemed to offer a chance of success.

Without delay the child was placed on a table, and after some difficulty (for I had no assistance) the trachea was opened with a bistoury, and a gum elastic catheter passed into the wound: a portion of the catheter was cut away, and the remainder secured in the trachea. There was not much blood lost during the operation, and the child seemed greatly relieved. Cautions were given to the parents to keep the tube clear, and gr. v. of calomel ordered every four hours. This dose was continued for some days, until the system was fully under its influence, when it was gradually left off. No bad symptoms occurred, and about the 14th or 15th day the tube was removed, and the aperture soon healed.

Of the propriety of the operation under these circumstances none hold a doubt: the injury is decidedly above the seat of the operation, so that recovery may be justly hoped for. Of its use, too, in inflammation of the upper part of the tube, most agree—though here, I fear, it is too often left as a "last resource," which last resource then proves none at all: but there is another disease in which the operation is slighted, and I may say almost laid aside—I mean croup. This has been brought more forcibly to my mind by a case which occurred to me about the same time as the above. In this I pressed on the parents the necessity of the operation, but they would not consent; the child ultimately died. I made a post-mortem examination, operating previously. The trachea above was full of false membrane, scarcely pervious; below, the tube was free although the mucous membrane was much inflamed. A similar case occurred whilst I was studying at Guy's: and in this there was no exudation below the seat of operation. These are the only cases in which I have had an opportunity of watching the result, and both these cases seem to be in favour of the operation. Surely it is better to save one life, or give a chance, however doubtful that chance may be, sooner than lose the patient. The operation would not interfere with other treatment, and the position of the patient would certainly not be worse. For my own part, I am inclined to believe that if the operation were more frequently had recourse to in croup, the termination of this fatal disease would be far more favourable than it is at present.

Hayes, May 7th, 1849.

EPIDEMICS DISPLACING EACH OTHER.

One epidemic often follows close on, or drives out, another. When plague prevails in the East, the announcement of the appearance of small-pox is hailed with joy, as the harbinger of the disappearance of the former. At Mons, an epidemic of small-pox and sweating sickness has expelled (?) the cholera. Some persons have been attacked by small-pox, others by the sweating sickness: the latter not being attended with danger; the former often fatal.

In Poland, also, the plague has expelled the sweating sickness and small-pox, which had superseded the cholera. Here the sweating sickness presented all the horrors by which it was characterised in the north of Europe at the end of the fifteenth century.—*La Presse Médicale.* X

THE
DETECTION OF ARSENIC
IN THE
REMAINS OF A DEAD BODY
FOURTEEN YEARS
AFTER INTERMENT.

By J. W. Webster, M.D.
Professor of Chemistry, &c. Harvard College, New England.

(*Communicated by* Alfred S. Taylor, M.D. F.R.S.)

I am indebted to Dr. J. W. Webster for the following report of a case of some interest in Medical Jurisprudence. John Cook, of Winchendon, was tried, in 1848, before the Supreme Judicial Court of Worcester, for the alleged murder of his wife by poison, in the year 1834. Dr. Webster was consulted respecting the probability of arsenic being detected after the long period of *fourteen years*. It will be seen by the following account, that he gave an opinion in the affirmative, and the result showed that he was correct. The case was peculiarly favourable to the investigation, as the body had been buried in a tomb, and had not therefore been in contact with any portion of soil from which it might be supposed to have acquired an arsenical impregnation.

In a letter dated December 12, 1848, addressed to a friend, Dr. Webster says:—

I have great pleasure in complying with your request for further details of the manner in which arsenic was discovered and obtained from the remains of Mrs. Cook, after an interment of fourteen years, as it will not only show the great delicacy and certainty to which the employment of chemical tests and processes has been brought, but may have some influence, perhaps, in deterring from the commission of crime. From the interest or curiosity this case excited, the inquiry was made of me, by many individuals, *previously* to the late trial, as to the means by which the presence of arsenic, after so long a period of time, had been ascertained. The important bearing of my evidence, should the case come to trial, impressed me with the conviction that until that time I ought to make no statements. At the preliminary examination of the prisoner, a full and minute account of the various processes in the analysis was not deemed necessary, it being sufficient for me then to testify to the fact only of the presence of arsenic. There was no refusal or unwillingness to enter upon as full and minute details as might have been asked for. The trial having taken place, no undue influences can now result from as full a reply to your inquiries as you may desire; and, with some remarks, may be useful to others who may be called upon to make similar examinations.

It should be stated that the most scrupulous care was taken that no one but myself should have access to the remains after they had been given to my charge, and that they should be exposed to no source whence any matter could become mingled with them, other than the pure chemical tests to which they were to be subjected. So far as I have been able, after much research, to ascertain, the longest interval of time between the supposed administration of arsenic and its subsequent detection, is seven years: this was in a case in France, in 1829.

Some time previous to the 14th of February last, inquiry was made of me by a highly respectable physician, as to the probability of ascertaining, by chemical analysis, the presence or absence of poison in the remains of a body that had been interred fourteen years, suspicion having been awakened, and there being "much public excitement on the subject." In reply, I stated that, although much doubt existed in my own mind, yet to so great a degree of delicacy and certainty had we arrived in the application of chemical tests and improved processes, that it did not seem impossible to determine the question as to some poisons: if the poisonous matter had been an organic body, a vegetable substance, a volatile body, or one susceptible of decomposition under the influences to which it would be subjected during the decomposition of the animal matter, there could be little or no hope of discovering it. I was then informed that there was suspicion that arsenic had been used, that the body had been found in a tomb, and that decomposition had not taken place as rapidly and entirely as under ordinary circumstances, and

I was requested to point out what parts of the remains would be most likely to retain the poisonous substance. All the matter of the stomach and intestines, or whatever remained in that portion of the coffin which had been occupied by the abdominal cavity, and its walls and contents, was accordingly collected, being taken up with a spoon, and deposited in glass jars, which were closed and sealed in the presence of the medical gentlemen attending. There was no reason to suspect that this matter had been in contact with the earth, or any source from which arsenic or any other substance could have been derived. A few years since, the important medico-legal question arose as to the possibility of a body becoming impregnated with arsenic from the earth, and it was answered in the negative by Orfila; but, as it appears, wholly from theoretical considerations. A body was subsequently exhumed, and the viscera, together with a portion of the earth of the grave, were sent to Paris, and examined by another chemist, and arsenic was discovered. In consequence of this, a body, which had been examined by Orfila, and in which no arsenic had been found, was again disinterred. This body had fallen from the coffin, and had been covered for some months by earth containing arsenic, yet not a trace of that substance was detected in the body. The fact that arsenic does exist in the earth in some localities, does not render medico-legal researches more difficult; because its' insolubility prevents bodies becoming impregnated with it. Orfila has arrived at the conclusion that a body can impart arsenic to the earth, but that earth containing arsenic cannot impart it to a body.

The sealed jars with their contents were delivered to me on the evening of the 14th of February last, by two medical gentlemen, one of whom had attended to the collection and removal of the remains. The seals were unbroken. They were taken to the laboratory of the Medical College, and there opened, when a faint disagreeable odour was perceptible, but far less offensive than had been anticipated. The contents of both jars were turned out into a large Wedgwood evaporating dish. They were dark, with different shades of brown and black; the whole were moist, but broken up into many small lumps, some of which had considerable firmness and consistency. Portions of membranes were enveloped in the mass, one of which was apparently part of the stomach or intestines, but so much changed that it was impossible to determine which.

It being improbable that any vegetable or organic poison was present, I proceeded to examine separate portions with a lens, but no particles of arsenic or other mineral substance could be detected. Of the mineral substances usually had recourse to as poisons, none appeared more likely to be found, if any such had been administered, than arsenic, or one of the oxides of that metal; and it seems pretty well settled that the oxide, known as arsenious acid, or ratsbane, resists decomposition more effectually, and for a longer time, than any other mineral poison commonly used. In recent cases of poisoning with this substance, I have more than once been able to detach minute portions from the inner surface of the stomach, particularly in another case upon which I had been engaged a few weeks before this time. It may not be superfluous to state, as showing in some degree how frequently arsenic is employed, or suspected to have been the cause of death, that in the course of the preceding three months no fewer than four cases were submitted to my examination, in two of which arsenic was found.*

As it was impossible to obtain any satisfactory results by acting upon the mass of matter from the jars without previous solution, and as it was deemed important not to limit the examination to the whole solution at once, but to subject the matters to all the chemical processes which were calculated to elicit and confirm the truth, the mass was divided into separate portions. One portion was boiled in pure distilled water for nearly an hour, and strained; the animal matter was coagulated by chlorine, which was subsequently expelled, and the clear solution was treated with hydrosulphuric acid. A part of this solution was tested by the usual methods, as with nitrate of silver and ammonia, sulphate of copper and ammonia, lime water, &c., in presence of the gentlemen attending at that time the medical lectures in Boston. With these tests, and also with hydrosulphuric acid, the presence of arsenic was distinctly indicated. No reliance, however, was placed on these preliminary trials, beyond the mere indication that arsenic was probably present. Another portion of the remains was treated with nitric acid and nitrate of silver, and similar indications resulted. Having obtained these indications of what was present in the remains, it was necessary to separate the substance, and in such a state that both its physical and chemical characters might be made out beyond question. For this purpose, and as the quantity of poison remaining was not supposed to be large, one-third part of the remains left after the preliminary trials was subjected to the action of sulphuric acid, and completely carbonized, or converted into charcoal; the purity of the acid, and especially its freedom from arsenic, having been previously ascertained.

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* The facility with which this deadly substance is obtained, probably in all our country towns and villages, being kept for sale in the common shops and stores, where it is liable to become mixed with flour, and various other articles of daily use,—and the frequent accidents, as well as intentional improper use of it, that occur—call for some efficient means of security. The keeping arsenic for sale, and the sale itself, should only be permitted to druggists, and no one be allowed to deliver it except to a responsible person, or to a written order from a medical man of known responsibility.

Another third was heated with hydrochloric acid and chlorate of potassa, filtered and reduced by careful evaporation. That any arsenic acid present might be brought to the state of arsenious acid, the liquid was treated with sulphurous acid. The remaining third part was treated with pure nitric acid, as employed by Orfila in the case of Cumon. From these three portions as many distinct clear solutions were obtained, each of which was separately again tested, and each gave indications of arsenic.

Each of these solutions was again divided into three parts, and each part was subjected to the three following processes:—One portion of each was examined by the apparatus and process known as Marsh's. In this, hydrogen gas is obtained from zinc, sulphuric acid, and the suspected solution. That all doubt as to the purity of the zinc and acid might be removed, and especially their freedom from arsenic, and also that of the apparatus, pure distilled water was first used. The hydrogen was evolved and continued a sufficient length of time to satisfy me that no arsenic was present. Had there been even a minute quantity it would have been taken up by the nascent hydrogen, and have caused a peculiar change in the appearance of the gas while burning, and other effects sufficient to detect impurity. The apparatus, after thorough cleaning, was now charged with a fresh piece of the zinc, acid, and solution, from the remains; the hydrogen evolved was ignited, and the blueish tint of the flame at once indicated the presence of arsenic. The flame was then brought in contact with a white surface of porcelain, and dark spots were produced; the same took place when a piece of clean window-glass was held over the flame. Aware that other metals, if present, might produce similar spots, especially if the gas was rapidly evolved, the process was allowed to go on very slowly, and continued nearly an hour. The spots were tested, and were arsenical.

Another portion of the solution was now used with the same precautions as before, and the gas was transmitted through a fine tube of glass, containing no arsenic or lead in its composition, and capable of bearing a high degree of heat. As soon as the hydrogen had displaced the air, and was issuing from the open end of the tube, a spirit lamp was placed beneath its central part, and that was heated to redness. The decomposition of the gas took place, and a metallic-looking crust was formed within the tube, a little distance beyond the red-hot portion. No deposit was observed in the hot part of the tube, which would have occurred had any other metal than arsenic been present. The process was kept up as slowly as possible, and continued over two hours. The metallic deposit was then carefully collected and tested in various ways so as to leave no doubt as to its nature,—it was arsenic. The process of Marsh has not proved as infallible as was anticipated when it was first announced, and it was found that antimony, for instance, which may have been administered to a patient in some one of its forms, would give a compound gas with hydrogen that burns with a flame, the colour of which is so similar to that of arseniuretted hydrogen, that the two might readily be confounded; and, moreover, that a similar stain would be produced by a deposit of antimony upon the porcelain. Fortunately it was discovered that all doubt could be removed by the very simple modification of the apparatus and process above described. The arsenic, if present, is volatilized in passing along the hot part of the little tube, and condenses in the cool part; but antimony fuses and retains much lustre. The tube was now detached from the apparatus, and the metal crust was heated; brilliant points began to appear in the upper part, which increased in size and number until distinct octohedral crystals with high lustre could be distinguished by the naked eye. There could be little, if any doubt, that they were crystals of arsenious acid. To leave no doubt on this point, the crystals were dissolved by boiling water, and the solution again tested: the result confirmed the previous one.

Another portion of the solution from the remains, was treated with hydrosulphuric acid gas; a copious yellow precipitate was obtained, also indicating the presence of arsenic. But although much reliance has been placed upon this test, it is by no means conclusive; for several substances may be present which will give a yellow colour when there is no arsenic. The yellow sulphuret of arsenic may, however, be distinguished by reduction; and if arsenic is present, it is easily separated, and obtained in the metallic state in a small tube, and can then be converted into arsenious acid, and crystallized as before described. This was done, and the result confirmed the other experiments.

Another process to which portions of the suspected solution were subjected, consisted in boiling slips of bright copper in the liquid, with a small quantity of hydrochloric acid, known as Reinsch's process. This process is not so delicate as Marsh's, but gives very satisfactory results, with proper precaution, and was resorted to as confirmatory of the other experiments. By this the arsenic is deposited upon the copper, and can be removed and subjected to the other tests. As to the quantity that can be detected by Reinsch's process, Dr. Christison, high authority, tells us that it will detect "at least a 250,000th part of arsenic in solution." Others say it will detect a 3000th of a grain in 90,000 times its weight in water. But the production of a mere stain upon the copper is not decisive. The copper may be thus tarnished when no arsenic is present; it may be occasioned by organic matters. It is not a process to be solely relied upon for medico-legal purposes. The production of the metallic crusts, and their conversion into arsenious acid and reconversion to metallic arsenic, in each case fully tested in other ways, can alone satisfy the operator.

The most complete method of distinguishing arsenic from antimony, is by converting the arsenical stain into chloride of arsenic, by exposure to chlorine; the chloride may then be converted into the pale yellow sulphuret, which, with ammonia, affords a colourless solution;—by heat the ammonia is volatilized, and the yellow sulphuret is reproduced. The action of nitric and hydrochloric acids, and subsequent evaporation to dryness, afford white rings of arsenic acid, which deliquesce and become invisible; and the deliquesced acid gives, with nitrate of silver, the dirty red stain of arseniate of silver. According to M. Devergie, this series of actions is conclusive. But we have no statement of how small a quantity of arsenic or antimony may, in this way, be distinguished.

As the fact to be ascertained in the case of Cook was of such vast importance, and no case, as far as I have discovered, is on record where arsenic had been detected after the lapse of so many years, it was deemed imperative to subject the solutions obtained from the remains to every form and method of examination which could throw light upon it; hence, although I have used the terms *tube*, *solution*, &c., it has been done for the sake of brevity; but in fact several distinct portions of the liquid and several tubes were employed; and the fact that arsenic was present in the remains, I consider fully established. How it came to be there I was not called upon to inquire.

In regard to the question, always, I believe, asked in judicial proceedings, as to the *antiseptic* power of arsenic, deemed of so much importance in the present case, it does not appear that the popular notion is fully sustained. Experiments have been made by Jager on the bodies of animals poisoned by arsenic, which go to show that it neither retards nor hastens putrefaction. Seeman's experiments upon dogs show that their bodies putrified as usual. It is probable that the antiseptic power of arsenic has been much over-estimated. Still there can be no doubt that arsenious acid combines with the fatty and albuminous tissues, and forms compounds which are not susceptible of alteration under ordinary circumstances; and some instances have occurred where the bodies of persons poisoned by arsenic have been found, long after death, in a remarkable state of preservation. In some of these the stomach and intestines had been preserved, although the general mass of the body had disappeared, leading to the detection and bringing to light of crimes committed many years before.

Another question is probably always put to a witness in a case of suspected poisoning by arsenic, viz.—*What is a fatal dose?* So many and various are the circumstances and conditions, that it is doubtful if any definite answer can be given. We have the case of Bertrand, who took five grains on an empty stomach, with no ill effects; and we have high authority that four and a half grains is a fatal dose: in a case in New York, an ounce was taken, and the pain in the stomach was but slight. Then, again, arsenic does not always produce violent and well-marked symptoms, although fatal. It may kill, too, by its narcotic operation, no morbid condition of the stomach being observed after death.

As to the existence of arsenic in the bones, *normal arsenic*, the early opinion of Orfila, that such is the fact, has not been confirmed by later researches. If found in the state of arseniate of lime, as was affirmed by Couerbe, this would not affect the question as to its presence in the stomach and intestines. In the case of Cook no portion of the bones was examined. But Orfila has retracted his former opinion, and a few years ago forwarded to the Academy of Medicine of Paris, a statement that he could no longer extract arsenic from the bones.

It should be mentioned that a portion of the arsenic obtained was exhibited at the trial.

MEDICAL GAZETTE.

FRIDAY, MAY 25, 1849.

The Royal College of Physicians of Edinburgh deserves great credit for the watchfulness which it has displayed in reference to the application of sanitary measures to Scotland. We have now before us the first and second reports on this subject, by the Committee of the College; and when we state that these reports have attached to them the highly respectable names of Professors Christison and Alison, it may be inferred that they are deserving of the attention of all who take an interest in the progress of sanitary legislation.

In the first report, the Committee examine the provisions of the measures which have since become the law of England—namely, the Public Health and the Towns Improvement Acts. On the whole, they approve of their provisions, but suggest amendments which would undoubtedly be improvements.

"As to the duty of the *Officer of Health*, they think it should not be restricted to "ascertaining the existence of diseases within the prescribed limits, particularly epidemic and contagious diseases," &c., but should distinctly require of him to observe their prevalence and degree of mortality, in each portion of the district as compared with others, or with other places; and in each year, and each season of the year, as compared with others; and endeavour to ascertain the cause of any local or temporary increase of mortality; and besides "pointing out nuisances or local causes of disease, and the means of ventilation of public buildings," he should have a more general instruction, to suggest from time to time any such regulations as he may think fitted for improving the sanitary condition of his district. On the other hand, as much has been said in some recent publications on the mportance of the Officer of Health being called on, by personal inquiry, to verify the fact, and ascertain the cause, of death in every instance, the Committee think it right to state their opinion that it would be an unwarrantable application of public money to employ so many Officers of Health as would be required for this purpose over the country, for an object which, in so far as it can be satisfactorily accomplished at all, may be much better attained, without such expense, by a well-devised Registration Act."

We pass over the remarks on the construction of sewers, paving and cleansing, the laying out of new streets, &c., in order to quote the opinion of the Committee on the subject of intramural interments:—

"The Committee object to the clause in reference to graves in which burial is permitted if "30 inches" of soil be left above the upper surface of the coffin; and are of opinion that interment in towns, and especially in crowded parts of any town, should be *prohibited*. But, in the event of this object being unattainable at present, they consider that no adult body should be allowed to be buried, in cemeteries within towns, nearer to the surface of the earth than four feet. They are also of opinion that such graves should *not be disturbed* for a period of about *ten* years; for which purpose it is desirable that a space of not less than *two* feet should be left between the graves. In the present circumstances of this and many other towns,—with their recently formed cemeteries beyond the inhabited portions of such towns,—these objects, the Committee think, could be easily accomplished."

With regard to the registration and regulation of lodging-houses for the labouring classes, in reference to the spread of epidemic diseases, the Committee state that—

"They are somewhat doubtful as to the propriety of introducing a regulation limiting *precisely* the number of inmates to be received, which, in some circumstances of towns, cannot be strictly enforced; but they are clearly of opinion that two provisions, not contained in the Acts before them, are essentially necessary for the purposes in view:—1. That the keepers of such lodging-houses should be required, under a penalty (as was the case in the former Edinburgh Police Bill), *to give information*, either to the police, the parochial authorities, or to some public medical institution, of every case of a person confined to bed by illness for twenty-four hours in any such house; and, 2. That the Commissioners should have power, on the representation of the Officer of Health, or of two medical practitioners, of the existence of contagion in any such house, to *shut it up entirely*, and not allow it to be re-occupied until it has been fumigated and its furniture cleansed."

There can be no doubt that the English sanitary movement was carried at one time much beyond its legitimate bounds. Popular lectures on the mode of reducing the deaths from what are termed preventable causes, were delivered in every Mechanics' Institute. Popular pamphlets and tracts on diet, ablution, and ventilation, were distributed through every household; and articles of furniture and domestic utensils, constructed on hygienic principles, were extensively advertised for sale. This was nothing more than sanitary quackery in its worst form. In reference to the extravagant views which were then advanced by the so-called sanitary reformers, the Edinburgh Committee make the following judicious remarks:—

"The Committee think it necessary to add, that while they fully concur in the importance of the measures in question, they do by no means indulge in any such sanguine anticipations, as to their immediate consequences, as are contained in the Report of the Committee of the Health of Towns Association in London, and in other recent publications; and they consider this a point of great importance, because, if the public are led to form such expectations of the result of these measures as cannot be realised in practice, the necessary consequences must be, *first*, that other measures, which may be equally necessary for the health and comfort of the inhabitants of towns, may be neglected; and *afterwards*, that a little experience of the state of the public health, after these measures shall have come into operation, may cause a general and hurtful feeling of distrust, as to the principles on which they are founded. Thus there is a great risk of the real efficacy of such measures being first overestimated, and afterwards undervalued—in both cases to the public disadvantage.

"In particular, the Committee cannot concur in the statement, that "science might secure to the whole population of this country such sanitary measures (involving protection from disease, suffering, and premature death), as are actually extended to the inmates of well-regulated prisons;" where, it is to be remembered, the diet, clothing, and whole mode of life, and intercourse with the rest of the community, are completely under the power of the authorities regulating those institutions.

"The Members of this Committee have witnessed too many and too extensive epidemics of fever, and are too well aware of the varying circumstances under which these may be diffused, to entertain any expectation, that, by all the sanitary measures here proposed, such epidemics can be prevented from recurring occasionally; or their symptoms and mortality from varying, as they often do, in all ranks of society, or their extension among the poorest people—who will inevitably crowd together, particularly in cold weather, in rooms, the atmosphere of which will necessarily become foul and offensive—be controlled as in a barrack or prison. They very much doubt whether the 'slaughter of the living by the dead,' *i. e.*, the extension of epidemic disease by the retention of dead bodies in inhabited houses, has been a material cause of the propagation of fever in the great towns of Scotland, which are known to have suffered much more from this cause than those in England. And they cannot concur in the general and unqualified assertion, that, "wherever animal and vegetable matters are in a state of decomposition, a poison is generated," capable of producing fever or other epidemic disease. If this last assertion had been correct, there are many parts of this town in which such diseases would constantly prevail; or, at least, always be apt to affect strangers taking up their abode there; whereas it consists with the knowledge of this Committee, that there are no parts of the town constantly liable to such diseases; that although these spread most rapidly and most extensively in the filthiest and worst-aired parts, yet, even in these, they prevail only occasionally; and that when they do prevail, their origin may generally be traced to *importation* from places previously affected, and their extension to the effluvia arising from the *living subjects*, applied, directly or indirectly, to those who become successively affected.

"All that these sanitary measures can effect will not purify the air of the interior of the crowded rooms, inhabited by the dissipated and improvident poor, or by the destitute poor; or do more than diminish the variety of disease and suffering, which may be ascribed, in part, to the impurity of that air. And although much may be done by religious and moral instruction,—by an enlightened and general system of *improved secular education*, especially as addressed to those who stand most in need of sanitary improvement,—and by the well regulated relief of destitution, to correct the evils which spring from dissipation or from indigence, yet it is only necessary to advert to the great mass of suffering, permanently included under the name of the Irish Poor, in every large town in this country,—to the effects of stagnation of trade in any of the manufacturing districts,—or to the faulty construction of large portions of such a town as this, which are private property, and cannot be rapidly altered,—in order to perceive that any such measures, for a long time to come, can only be partially successful."

In their second report, the Committee point out with equal judgment and ability, the objections which exist to the sanitary measures, which it is now proposed to apply to Scotland. They show that the option left to the inhabitants of small towns under the Public Health Bill, of adopting it by petition or resolution, must necessarily limit its application; and that the proposition to work the measure by a London Board of Health will probably prevent its adoption in the city of

Edinburgh. This proposition of centralizing the working of the bill, has arisen from a desire to ensure uniformity in carrying out its provisions; but we agree with the Committee in thinking, that jealousy and misunderstanding are more likely to be the fruits of this arrangement, than cordial co-operation. The authorities in London and in Scotland may be easily placed in opposition to each other.

> "For example, the Officer of Health, under this Bill, will be appointed, and be removable, by the Local Board, at each town in Scotland; but the duties he has to perform will be directed by the General Board in London (§ 39). Again, the construction of drains and sewers, the purification of infected houses, the removal of nuisances, the regulation of lodging-houses, are entrusted to the Local Boards; but the prohibition of interments in particular burial-grounds is specially directed to be at the discretion of the General Board of Health in London (§ 78); and the approval of the General Board seems to be always required for fixing the level and width of new streets, and the supply of water to districts."

The Committee give a quiet hint respecting the public want of confidence in the members of the London Board of Health. The cholera manifestoes of this Board have notoriously gained for its members ridicule instead of respect; and the Edinburgh Committee might have fairly objected to their being entrusted with this absolute power over Scotch sanitary legislation, on the ground of proved incompetency.

> "The Committee will take the liberty of adding, that, although they have a high respect for the individual members of the General Board of Health in London, yet the confident expression of opinion which those gentlemen have officially made on several important questions touching the diffusion of epidemic diseases, which the Committee regard as very difficult and doubtful,—and on which they know that some of the most experienced practitioners in Scotland hold a very different opinion,—have by no means tended to increase their expectation of the efficacy of measures, applicable to Scotland, for restraining the diffusion of epidemics, which may proceed from that source."

This centralization of the powers for working the Bill, appears to be the only contested point of importance, and we think it might be fairly conceded by the Government. If any central authority be required, it should undoubtedly be formed in Scotland itself. There are many eminent members of the Colleges of Physicians and Surgeons of Edinburgh, who are well qualified to become members of a General Board of Health for Scotland. The Government of the day, however, has ruled that, in England and Wales, the medical profession shall have no voice in the matter. Sanitary affairs are settled for us by a "Board of Works;" and we fear our Scotch brethren will have to submit *nolentes volentes* to the same unsatisfactory jurisdiction.

DURING a discussion which recently took place in the House of Lords, in reference to the sanitary condition of the metropolis, LORD CARLISLE announced that he had reason to hope that he should be able, before the close of the present session, to submit to their lordships a satisfactory measure respecting the burial of the dead within the walls of the metropolis. We trust that this expectation may be realized. Nothing can be more disgraceful or insalubrious than the present system. Sanitary legislation must be regarded as a mockery, so long as this evil practice is allowed to continue. Burial fees for interments in the London graveyards should be entirely abolished. The clergymen and undertakers who derive their stipends from the abominable practice of packing away the dead and poisoning the living, should be taught the full meaning of the principle, *salus populi suprema lex.* A good commencement might be made in restricting, for the next year, the number of interments according to the area of each graveyard, and in fixing the total fees for each interment at a sum not exceeding five shillings,—all other expenses attending the funeral to be defrayed by those who claim a vested interest in the cemetery, and who have a patriotic desire to perpetuate a practice which the majority wish to have suppressed. In the meantime, the following resolutions,. agreed to at a large meeting recently held to petition Parliament, show that the subject is receiving that public attention which it deserves.

"It having been repeatedly demonstrated that the practice of burying the dead in the midst of the living, produces the most deplorable consequences to the health of the community, by poisoning the air we breathe and the water we drink, this meeting deeply regrets that a question involving the disposal of some 600,000 bodies, the annual mortality of the United Kingdom, should not have taken precedence of all others in the sanitary measures passed in the last session of Parliament. That more especially at the present time, when cholera is among us, the constant disturbance of dead bodies, in every stage of decomposition, and the exposure of human remains in consequence of the incessant upturning of the soil, for the purpose of making graves in places long since filled to repletion, ought to be instantly abolished. That this meeting also protests most strongly, on the ground of the utter worthlessness of the protection thereby afforded to the public health, and for other cogent reasons, against the practice of depositing bodies in vaults or other receptacles under churches or chapels, whether in leaden or 'pitched' coffins; and therefore it records its unqualified condemnation of clause 112 of the City Sanitary Measure, which, in the year 1848, legalised this most objectionable and destructive custom.

"That this meeting believes that the many injurious consequences unavoidably resulting from the present system of interring the dead, can only be removed by a legislative enactment, originating with, or supported by, Her Majesty's Government. That in the year 1842, a committee of the House of Commons reported to Parliament 'That, after a long and patient investigation, they could not arrive at any other conclusion than that the nuisance of interments in large towns, and the injury arising to the health of the community from the practice, were fully proved; that the evils of interment in towns and populous places had grown to such a height, that no time ought to be lost by the Legislature in applying a remedy; that this custom had desecrated the repose of the dead, and injured the health and feelings of the living, could not be denied; that it had also exhibited the singular instance of the most wealthy, moral, and civilized community in the world tolerating a practice and an abuse which had been corrected for years by nearly all other civilised nations in every part of the globe.' That these views of the Parliamentary Committee of 1842 were affirmed by a majority of the House itself in the year 1845; that universal mischiefs require universal remedies, and, therefore, a general act for the establishment of cemeteries, in suitable localities, should be passed as a measure of wise legislative economy, and of simple justice to the nation."

GANGRENE OF THE LUNG.

This was observed in an Italian sailor, named Calichi, in the winter of 1847. The attack appeared to have begun as ordinary pneumonia: it had, however, progressed considerably before he entered the house. The degree of fever, pain, &c. indicated antiphlogistic treatment; and moderate venesection, cupping, and mild mercurials and opiates, were used. The expectoration was at first rusty and muco-purulent; afterwards approaching pure blood; and finally dark, with the odour of putrefaction. He then became prostrate, and died about five days after admission. Post-mortem inspection displayed the complete sloughing of one lung.—*American Journal of Med. Sciences*, January, 1849.

CLINICAL LECTURES
ON THE
PHYSICAL DIAGNOSIS OF PHTHISIS.

Delivered at the Hospital for Consumption and Diseases of the Chest.

By Richard Payne Cotton, M.D.
Member of the Royal College of Physicians, London; Assistant-Physician to the Hospital.

Lecture II.

The first stage—Changes in the form and movements of the chest—Rules for percussion and auscultation—Varieties of morbid respiration, and their relation to tubercle—Position of tubercular matter.

The morbid conditions in Phthisis, discoverable by physical examination, have their different stages as distinctly marked, and pass as regularly from one to the other, as the more general and visible symptoms of the disease; both travel onwards *pari passu*, and one may often be used to confirm or correct the other. They are divided into first, second, and third stages; the first corresponding to the crude tubercle, the second to its period of softening, and the third to its elimination, with the formation of cavities. I must beg you to bear in mind that physical signs, as a general rule, will only determine physical states, — or, in other words, will declare the physical, and not the pathological condition of the lungs: consequently we need further evidences, and amongst them, the history and general symptoms of the case, as well as the knowledge of certain laws, to determine whether the change we may discover depends upon tubercular deposition, or other diseases equally interfering with the act of respiration.

On the first appearance of tubercles in the lungs, in the majority of cases, there is no visible deviation from the healthy form of the chest, and mensuration with callipers will fail in detecting any dissimilarity in the two sides. In a few instances bulging to a variable extent may be discovered in one infra-clavicular region; but its rarity will be manifest when I mention that I have met with it but three times in examining about 400 phthisical patients. In each of these it preceded for some time the general symptoms, and co-existed with rather an increase than otherwise of healthy resonance, a feebleness of respiration, and absence of rhonchi: hence, it may be inferred that the pathological condition producing it is a local and temporary hypertrophy of the air-cells, in consequence of some of them compensating, by increased capacity, for the impaired functions of others in their vicinity. One of these patients left the hospital, calling himself cured, after six weeks' attendance, with the bulging unchanged; a similar result attended the second case; but the third remained under treatment about three months, during which time the enlargement gradually disappeared, and was succeeded by hardness on percussion, and dry crackling rhonchi.

I suspect that bulging would be more commonly seen, had we the opportunity of examining a greater number of cases at their very beginning: it cannot be considered a very important sign, because a slight difference might in some persons be natural; but when strictly localized, and coinciding with other doubtful symptoms, it may justify a suspicion of incipient phthisis.

As the first stage advances, the lung in the vicinity of tubercle usually contracts, either from atrophy of its cells, chronic inflammatory induration of its structure, or contraction of false membrane from secondary pleurisy; and, as a consequence, there is more or less depression in the neighbourhood of the clavicle, sometimes evident to the eye, but readily ascertained by using the callipers. As might be supposed, there is great variety in this respect, many cases not offering the least difference in the two sides until softening has begun, whilst others display a visible falling inwards very early in the disease. Any depression either in the supra- or infra-clavicular region of one side should be regarded as suspicious: in my notes of 100 cases in the first stage, I find it recorded fifteen times, in all of which, however, the disease was considerably advanced, and at no great distance from the second stage.

No information can be gained at the earlier periods by watching the movements of the chest, as the two sides, from long habit, are pretty equally expanded,* although one lung may have rather less power of distension than the other: it is not until a later stage that any important difference in this respect can be ascertained: moreover, a slight dissimilarity might be natural, or result from lateral curvature; but whenever the case is sufficiently advanced to exhibit any depression, there is less mobility in that region.

Unless the tubercular deposit be considerable, or the neighbouring part of the lung much condensed, application of the hand will not detect any morbid amount of vocal fremitus in the infra-clavicular region; and as an excess on the right side is natural, its employment is nearly limited to the examination of the left, where, if the vibration be greater than on the other, phthisis may be fairly suspected.

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* This applies only to the *appearance*: it is more than probable that careful measurement of the respiratory movements by the Chest-measurer of Dr. Sibson, would, in the majority of cases, detect a slight difference.

At a very early period careful percussion will generally detect a slight difference in the resonance of the diseased part, growing more and more evident as the case advances, until the sound produced becomes perfectly dull; at the same time the healthy elasticity of the thoracic walls is diminished, and a sense of resistance, passing into perfect hardness, given to the finger employed as the pleximeter. It is practice alone which can enable us to form a correct opinion of the shades of difference thus presented; but the senses of hearing and touch may be so familiarized to their varieties, as to render the most minute changes, invaluable evidence of disease. The mode of employing percussion is important, and will justify a few words respecting it.

The best method is to tap upon the centre of the middle finger of the left hand pressed steadily upon the intercostal spaces, parallel to the ribs, with the extremities of the united fore- and middle-fingers of the right hand,—the movement being made solely by the wrist-joint, and the elbow kept perfectly motionless. Not only is a sharper and better sound produced in this way, but the appearance of striking the patient is avoided. I have seen many persons not only frightened, but seriously injured, by the clumsy practice of lifting the entire arm. The pleximeter-finger may sometimes be placed upon, and parallel with, the ribs, and often at right angles with them; and it is useful in doubtful cases to employ all these methods, as one may afford evidence which another does not; but in all instances one side must be compared with the other, at corresponding points, and by the same means.

Percussion of the clavicle is highly important, and is best performed directly,—that is to say, without the intervention of a pleximeter; it must be practised at points precisely similar on the two sides, as the natural resonance decreases with the increase of distance from the sternum. Although the supra-clavicular regions often pass unnoticed, they are very important, and should be examined by tapping with the fore-finger of the right hand, the extreme joint of the middle finger of the left hand, pressed firmly downwards. The supra-spinous regions, also, are instructive parts, and may be examined in the ordinary way.* A very different result follows a gentle tap, and a more forcible one: the former yielding a sound from the superficial, and the latter from the deeper portions of the lung; hence it is frequently useful to practise both.

Where tubercles are few in number, or diffused, a difference otherwise imperceptible may be often detected by using the united four fingers of the left hand as the pleximeter, and tapping with the ends of the four fingers of the other hand.

In doubtful cases it is useful to percuss whilst the patient is holding the breath after a deep inspiration, during which, the affected lung being less distended than the other, may exhibit more or less comparative dulness. Diminished resonance is one of the earliest and most characteristic signs of phthisis, and I have met with but two cases in which it was calculated to mislead. These were patients labouring under sub-acute bronchitis, in each of whom one infra-clavicular region was decidedly dull, as I believe, simply from an accumulation of mucus. In these instances, however, this character changed even at each visit; and such examples are so rare as scarcely to detract from the value of percussion.

By far the most valuable evidence of phthisis is afforded by auscultation, which, to the practised ear, will rarely fail to reveal it at a very early period. As I have often seen persons utterly unable to appreciate the best-marked sounds, from their imperfect manner of using the stethoscope, I shall say a few words on this subject.

Although, in many cases, the ear may be applied directly to the chest (immediate auscultation) for all minute examinations, and where the upper lobes are concerned, the use of the stethoscope (mediate auscultation) is indispensable, as it enables us to isolate any one point from another. If too lightly applied, it fails to convey sounds to the ear; and, if too firmly, the respiratory movements of the patient are impeded. It should be steadily and evenly pressed, not to interfere with the costal motion, and not touched with the fingers;—a little experience makes this matter very simple. In exploring the upper regions of the chest, it is not sufficient to place the stethoscope upon one point only, as early tubercle may be very limited in position; every part in the infra-clavicular region should be listened to, and compared with the opposite side. I have found it a good plan to examine first the acromial extremity on one side, and then on the other,—afterwards the centres, and lastly the sternal end of each; for if these three parts be examined on the same side in succession, the peculiar character of any one is lost, before compared with its corresponding one on the opposite side. In the great majority of cases the acromial angle will give the earliest indication of disease.

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* In children the interscapular region should be percussed, as it will often be found the only seat of dulness, owing to the frequency with which their bronchial glands become tubercular.

The changes in respiration caused by tubercle are various, and depend upon its extent and position, as well as on the physical state of the surrounding lung; but they may be all included under the following heads:—viz. weak, jerking, harsh, bronchial, expiration prolonged;—which will be spoken of separately.

Simple weakness, without any other alteration, is very often met with, and may be found over the whole apex, or only in spots: in the latter case, the intensity of breathing in the immediate neighbourhood is generally increased to compensate for the deficiency; and, in the former, the other lung frequently presents the respiration termed compensative or supplementary,—which is merely a highly-developed natural type, to make up for loss of energy on the other side. In some cases the weakness passes almost into the absence of respiratory murmur; but I have never yet met with a case of its total suppression,—that is to say, in which a sound more or less loud could not be heard during forced breathing. Where feebleness of respiration depends upon tubercle, it is singular to observe how progressively the sound increases in descending, until, towards the middle of the lung, it becomes similar to the other side. Weakness may be a healthy peculiarity, but as such, it is found precisely alike in all parts of the chest; therefore, unless this character is determined comparatively, no dependence can be placed upon it. When the breathing is naturally weak, slight changes are not easy of detection; but if by percussion and other general signs, suspicion be excited, it is useful to listen whilst the patient takes some deep inspirations, when a very manifest difference is often discovered. It is so difficult to make many persons understand how to breathe forcibly, that care must be taken that the same amount of effort be made whilst each side is examined: but by practice it is easy to tell from the movement of the stethoscope, whether the breathing is performed evenly.

Where, in suspicious cases, the respiration is equally feeble at both apices—the result of an equal amount of tubercle in both lungs (an unusual occurrence), I have formed a correct diagnosis from ascertaining that at the bases it was comparatively strong; recollecting the rule previously mentioned, of there being in health a somewhat greater intensity in the former than in the latter.

In jerking respiration, the inspiration, but little changed in intensity, instead of being unformly developed, occurs in irregular puffs; whilst the expiration is scarcely affected. This is a very distinctive and common sign, and early in its appearance, often remaining for weeks or months, and generally followed by the harsh variety,—or, if the disease does not advance, gradually subsiding, or passing into the weak type.

It is not difficult to understand the cause of weak and jerking respiration: an impediment exists to the free expansion of the lung, which in the former is partially and gradually overcome, but in the latter only by intermitting efforts.

Harshness may be a quality added to either of the above, or occur as an independent variety: in the former case, no particular explanation is required, but in the latter, a frequent and important condition obtains.

Harsh respiration is known by being louder than that of health, and conveying to the ear a distinct idea of air passing over a rough surface: it is either limited in position, or diffused over the whole infra-clavicular region—the latter generally happening with the progress of tuberculization, and is at length superseded by the bronchial form. The harsh quality exists in every degree, from the simple loss of the smoothness peculiar to health, to its passage into indistinct and small crackling sounds; as it would seem, the commencement of rhonchi, characteristic of phthisis, which will be explained hereafter. Its intensity is variable, sometimes amounting to a sound positively blowing, at other times scarcely above the healthy standard: when once established, it is but too apt to increase, whilst the general symptoms betray a corresponding advance in disease: by proper treatment, however, it may often be arrested and lessened, although, when once fully established, I have never known it entirely lose its characteristic quality.

Alteration in the relative length of the two respiratory murmurs is generally owing to an increase in the expiration; but sometimes the inspiration is shortened, which gives to the other an appearance of prolongation. Whether the expiration be lengthened actually or relatively, it is equally a sign of disease; but a decrease is of no importance, since it may vary in duration from the usual standard, until it is quite inaudible. Prolongation of the expiratory murmur may exist separately, or be associated with the weak and harsh varieties: it is rarely much increased in length without being changed in intensity or quality; sometimes it is louder than in health, at others harsh, or bronchial. If one or more of such changes be limited to the ordinary seat of tubercle, they become valuable evidence of phthisis, and with the concurrence of other general and physical signs, leave no doubt as to the disease.

The cause of prolonged expiration may be explained, either by the mechanical obstacle to the exit of air afforded by the tubercular matter, or the diminished contractility of the pulmonary tissue; it is probable that both may act in combination: the inspiration may be at the same time shortened, by the decreased capacity, and imperfect expansion of the lung.

Bronchial respiration commences either from an almost imperceptible transition of the harsh variety, or a gradual extension of the bronchial quality of expiration into both murmurs: even in the former case the first change is often observed in the expiratory sound, and it may be a long period before the other becomes affected; but this is not an invariable rule, for occasionally the inspiration alone is bronchial, and remains so throughout.

The respiration is naturally bronchial in some parts of the chest, but elsewhere it can only become so from the conduction of sound from more or less deeply seated bronchi, by solidity of the lung. M. Fournet, a great authority in auscultation, has taken pains in explaining the distinction between the healthy and morbid kinds, but from the varying character of both, I have failed to discover the practical utility of his conclusions: when, however, the latter has been long established, it is easily recognized by its greater harshness, dryness, loudness, and tubular character. On this subject the following rules may be found useful:—

Bronchial respiration, however slight, where it does not occur naturally, is a sign of disease; if in, or near, those parts where it may do so, its value consists in the presence or otherwise of a corresponding condition on the opposite side, since the natural kind is never found on one side only, and the morbid rarely on both, or if so, not in the same degree. Whenever the respiration is bronchial over the ordinary seat of tubercle, it may be taken as presumptive evidence of phthisis; but it is far from being a constant attendant upon the first stage, as a considerable amount of pulmonary condensation is necessary to its production: when fully established it is generally permanent, until superseded by symptoms of breaking up of the lung; although, by proper treatment, its progress may be often stayed, and the amount considerably lessened.

The following table has been formed to show the relative frequency of the preceding conditions in 100 cases in the first stage:—

Respiration.

Weak.	Jerking.	Harsh.	Expiration prolonged.	Bronchial.	Harsh with Expir. prolonged.	Weak with Expir. prolonged.
33	12	7	16	10	5	17

It is important to recollect that these changes in the respiration are not, *per se*, a proof of phthisis, since they indicate merely disordered function of the lung, and are common to any alteration in its physical state, impeding the free entrance and exit of air. The lung may be thus influenced either by tubercles alone, from their number,—inflammatory consolidation, from their irritation,—idiopathic inflammation,—or mechanical obstacles in the air-passages.

Two circumstances will generally determine their dependence or not upon tubercular disease—viz. (1) position; (2) coexistence of other signs.

1. *Position.*—It is well known that tubercles, as a general rule, are first deposited in the superior lobes; in very rapid and acute cases they may be distributed equally throughout the lung, but in chronic cases, the bases are seldom implicated, and then not until the disease is in an advanced stage: in 500 out-patients I have met with but four cases where the lower parts seemed chiefly affected, and only one instance of a tubercular cavity in the inferior lobe. They appear at first equally disposed either to occupy but one side, or to occur in one to a much greater amount than in the other: in 100 cases in the first stage, they were found, on the right side only, 27 times; on the left only, 51 times; and on both sides, 22 times.

Situation of Tubercle in 100 *Cases of Early Phthisis.*

Right Apex.	Left Apex.	Both Apices.	
		Equally.	Unequally.
27	51	8	14

If, therefore, the morbid respiration show a corresponding limitation, it is a valuable sign of phthisis; if, on the other hand, it occur in other situations, it is probably produced by other diseases, of which the following is a brief sketch.

The respiration is weak over the greater part of the chest whenever an obstacle exists to the free entrance of air into the pulmonary cells: it is harsh when the surface of the latter has lost its smoothness: hence, the first is met with in bronchitis and emphysema—in many nervous affections—whenever the calibre of the bronchi is changed by spasm, as in asthma, or the pressure of tumors; whilst the latter accompanies bronchitis, and emphysema (from attendant bronchitis).

Expiration may be prolonged in any region by a mechanical impediment to the exit of air, and by diminished elasticity of the lung itself; hence it is common in bronchitis from accumulated mucus, and in emphysema from permanent dilatation of the air-cells.

Jerking respiration may attend incipient pleurisy, and pleurodynia, when it is limited to the seat of disease, and is often heard in hysterical females over the entire chest.

Bronchial respiration may occur over any part of the lung, in dilatation of the bronchi, pleuritic effusion, and pulmonary consolidation.

To afford a more ready view of the value of position, the following table has been constructed, and for practical purposes will be found sufficiently accurate: it can only be founded upon extreme probability, as exceptions will arise under special circumstances:—

Respiration.

	Weak.	Jerking.	Harsh.	Expiration prolonged.	Bronchial.
Occurring in the upper part of one, or sometimes both lungs.	Tubercle. Pneumonia and Pleurisy (from tubercular irritation ?)	Tubercle. Pleurisy (from tubercular irritation ?)	Tubercle. Capillary Bronchitis (from tubercular irritation ?)	Tubercle. Bronchitis (from tubercular irritation ?)	Tubercle. Dilated Bronchi. Pneumonia (from tubercular irritation ?)
Occurring in the chest generally, or in the lower part of one, or both lungs.	Emphysema. Pleurisy. Pneumonia. Asthma. Pleurodynia. Hysteria.	Emphysema. Pleurisy. Asthma. Hysteria.	Pneumonia. Bronchitis. Asthma.	Emphysema. Bronchitis. Asthma.	Pleurisy. Pneumonia. Dilated Bronchi.

2. *Co-existence of other signs.*—It would be unsafe to form an opinion in all cases upon position only, because an idiopathic inflammation may occupy the upper lobes, and the physical state of the lungs be thus rendered analogous to that produced by tubercle; although such an event is comparatively rare. Other signs, therefore, should be sought for—such as the form and mobility of the chest, and some yet to be considered: percussion and application of the hand should be practised, as they will remove any uncertainty as regards nearly all affections but pneumonia, which causes dulness of sound and increase of vocal fremitus. Lastly, in all cases, and especially where there is a doubt, the patient's general history should be taken into account, when it will rarely happen that we form an incorrect diagnosis.

LARYNGITIS — TRACHEOTOMY. DEATH FROM BRONCHITIS AND PULMONARY CONGESTION.

DR. J. B. S. JACKSON exhibited the larynx and upper portion of a trachea, taken from a patient under the care of Dr. Townsend, at the hospital, showing great redness of the mucous membrane, with infiltration of pus in the submucous cellular tissue, narrowing the rima glottidis. Dr. Jackson exhibited a plate from Cruveilhier's Morbid Anatomy, descriptive of this affection, and the comparison showed the closest resemblance. The history of the case was as follows:—A stout, plethoric man in the hospital, with fracture of the forearm, complained of sore throat, which was prevalent in the ward, with a tendency to erysipelas, in consequence of which he was removed to another room. The next day he was suddenly attacked with urgent dyspnœa, which increased with such great rapidity, and with so much œdematous swelling of the neck externally, that tracheotomy was at once decided upon. The operation was much embarrassed by the remarkable shortness of the patient's neck, and the œdematous infiltration. During its performance, the dyspnœa was aggravated to such a degree as to threaten immediate suffocation; and the trachea was punctured with a flat trocar, and the opening enlarged with a probe-pointed bistoury. A very considerable quantity of blood escaped into the air-passages. But after the introduction of a canula the patient rallied. The next day he was quite comfortable, walking about his room. But the second day after the operation, he was again attacked with dyspnœa, and died after three hours. The mucous membrane lining all the air-passages was found of a vivid redness, and the lungs choked with a frothy serum.—*American Journal of Medical Sciences*, January 1849.

Reviews.

A System of Practical Surgery, including all the recent discoveries and operations. By JOHN LIZARS, late Prof. of Surgery in the Royal College of Surgeons, Edinburgh. 2nd edition, 8vo. pp. 503. Edinburgh: Lizars. London: Highley. 1847.

WE regret that some delay has taken place in the insertion of a notice of this excellent practical work; and we are the more strongly reminded of this, by the fact that it was published before the properties of chloroform were known, or we should doubtless have had from the author, an able analysis of its uses in operative surgery. The inhalation of ether is shortly noticed in the commencement of the chapter on amputations, but when this was written, the advantages and disadvantages of this agent in surgical practice were not so fully understood as they are at the present time.

This work, while it is specially intended for the use of the student of practical surgery, is also adapted to recall to practitioners the rules to be observed for the safe performance of surgical operations. It is most profusely illustrated, containing no less than forty-nine plates filled with engravings, representing the steps to be pursued by the operator from the simple performance of venesection to the removal of the lower extremity at the hip-joint.

The work commences with a general account of inflammation and its sequelæ. We have then a description of diseases of the vascular system, with the operations necessary for their treatment. In the section on injuries to veins, we miss a description of the effects produced by air introduced into these vessels,—a subject which is of some importance to the practical surgeon. The fatal effects of this accident are only incidentally adverted to in the paragraphs on transfusion. It is a singular fact, that with the exception of Mr. Ferguson, surgical writers have scarcely noticed this effect of air entering into the veins, or the circumstances under which the accident may occur, although it is obvious that from this cause, slight operations in the neck may be easily rendered fatal.

Diseases of the bones and joints follow next in order; and here we meet with a short account of deformities of the foot, and of the operation of tenotomy. We then have a description of the varieties of wounds, and of amputation. The subject of gun-shot wounds is very concisely treated. Since the work was published, continental surgeons have had the opportunity of adding largely to their experience in this department of surgery. The principles of liberty and equality, as illustrated by cannon-balls and musket-bullets, have fortunately not yet extended to this side of the channel. It remains for us, therefore, to apply to practice, the results of the experience derived by our neighbours.

Chapter VII introduces us to Diseases of the Glandular System, and this is followed by a description of diseases and accidents to the skull and brain,—injuries of the face and the organs of sense,—diseases and wounds of the neck, thorax, and abdomen, — and finally, of the rectum and genito-urinary organs.

As a specimen of the author's style, and mode of handling his subject, we shall quote his remarks on hæmorrhage and its treatment.

Hæmorrhage.—" Hæmorrhage, the dread of both the ancients and moderns, has greatly retarded operative surgery, and precisely in proportion to our ignorance of anatomy. When an artery is wounded, the blood, of a bright vermilion colour, flows in distinct jets; while, when a vein is cut, it flows of a dark purple colour, in an equable or smooth stream. In the smaller veins contiguous to the capillary arteries, the stream is interrupted, or flows *per saltum*, as if an artery were wounded. When an artery is merely punctured, the hæmorrhage generally soon produces fainting, and the blood injects its cellular sheath, which forms a coagulum that becomes a temporary barrier to its flow; but, if this process be disturbed, or if inflammation and ulceration follow, the hæmorrhage will recur from time to time, until it prove fatal. In such cases, therefore, if the vessel is large, as that of the thigh, it should be instantly secured by throwing a ligature around, above and below the seat of the wound, because the retrograde flow from the free inosculation is liable to reproduce the bleeding. But if no disturbance accrue to this process of nature, and even if the artery have a small longitudinal or obliquely incised wound, the wounded edges of the artery inflame, effuse coagulable lymph, and are united by the adhesive inflammation; and if the wound is small, the continuity of the vessel is preserved. A long continuance of rest is requisite, however, to ensure safety from aneurism. I saw the brachial artery wounded by a dresser in the Royal Infirmary, where the arm was instantly compressed and bandaged most scientifically; but four days afterwards, the patient died of the affection for which she was bled, and, on examination, there was an elegant little aneurism. The preparation is preserved. It will be at once seen that the same causes preventing the success of securing the principal artery of a limb for aneurism, will operate here, and that mortification will be even more liable to follow in this case.

"When an artery is divided transversely, an impetuous flow of blood takes place, producing fainting; its ends are constricted, and retract into the contiguous cellular tissue, which is injected with blood that soon coagulates, while the blood flows by the proximal branches, allowing a coagulum of blood to take place in the trunk, which thus gradually becomes obliterated, as if secured in aneurism, and the hæmorrhage is for a time arrested. If this natural process be undisturbed, slight inflammation will follow, with the effusion of coagulable lymph in the artery, between its coats, and in the cellular substance in the vicinity, which becomes gradually consolidated, and proves a perfect barrier to after bleeding. This, however, is not always the case; particularly if a branch is near the wound, the blood flows impetuously by the trunk, produces fainting, which recurs at each successive rallying of the system, or at once proves fatal. The artery ought, therefore, to be secured, as in the first instance, even were it the axillary, in its mesh of nerves, veins, and branches. This vessel was lately wounded with a sharp-pointed instrument, and the subclavian, as it run over the first rib, tied, and compression applied with success, by Langenbeck. When an artery is torn across — as, for example, when the arm is wrenched off at the shoulder by machinery, there is little or no bleeding, in consequence of the twisting or torsion of the coats of the vessel; the muscular and serous are lacerated, and shrink within the cellular, and the blood coagulates between them, forming a large firm clot, which stems the hæmorrhage. I have now seen two cases illustrative of this, in boys about twelve years of age. The one had his arm torn off within an inch or so of the shoulder-joint; the other, the whole of the scapula, with two-thirds of the clavicle. In both, the artery was seen beating strongly in the centre of an extensive and clean wound, with a long dark clot at its extremity. This artery was secured. Both boys are still living.

"Hæmorrhage from an artery has been divided into primary and secondary; the former when it occurs within thirty hours after the receiving of the wound, or rather when reaction of the system has taken place, which is usually within eight hours; secondary, when it takes place after this period, but no definite time can be specified. It has been ascertained, from a record of several cases, that the thirteenth day is the critical one; but I have known it occur in the arteries of the leg on the twenty-first day. When the smaller arteries are wounded, such as those in the palm of the hand or the sole of the foot, compression with lint, or agaric, or matico, dry sponge, sponge tent, and a bandage, may be employed; but it is much safer to cut down and secure them with ligatures; or, to combine the compression with tying the brachial or femoral trunks. Sponge tent consists of sponge dipped in melted wax, and forcibly pressed into the smallest possible size. The same kind of compression is applied to the intercostal arteries, and the extreme branches of the internal maxillary after the extraction of a tooth; to the internal pudic artery when wounded in lithotomy, but this vessel can be easily secured by an aneurism-needle; and to the temporal, which latter, however, is stemmed by cutting it across below the wounded point. When a vascular surface, as the mucous membrane of the nares, is bleeding, styptics, and compression by dry lint, are used: escharotics should never be employed. If the bleeding proceeds from the stomach, styptics are administered, and venesection to produce fainting, which greatly favours the natural process of arresting hæmorrhage; and along with these, cathartic enemata, low diet, and rest, are essential. If from the lungs, the same remedies, with narcotics and gentle laxatives. When from the corpus spongiosum or cavernosum penis, compression and bandage, or the actual cautery. The styptics in use are cold water, vinegar and cold water; solutions of the sulphates of zinc, alum, iron, or copper; of the nitrates of silver or copper, the mineral acids, diluted alcohol, alcohol and sulphuric acid combined. If the bleeding is from the gums, or antrum maxillare, or orbit, after a surgical operation, compression or the actual cautery is requisite. To arrest bleeding, the actual cautery should be moderately heated, only at a black heat, and the instrument ought to be held lightly to the bleeding part, and cautiously removed, to prevent the eschar made being pulled away.

"Small veins, and sometimes the larger, are readily stemmed by compress and bandage, particularly if there is a firm resistance, as a bone. When a vein, such as the axillary, is wounded, an accident I have seen occur in the careless excision of axillary glands, a ligature must be thrown round it, below and above the wounded point. The same must be the practice when the external jugular vein is accidentally wounded in the operation of securing the subclavian artery.

"When the venous trunk of a limb, as the axillary or femoral, is divided across, mortification is liable to supervene, and when this appears, the sooner amputation is had recourse to the safer for the patient.

"*Transfusion.*—When a, person loses such a quantity of blood as nearly to exhaust life, we have recourse to transfusion, which consists in injecting a little of the blood of a vigorous into the venous system of the dying man. One of the veins at the bend of the arm of the patient is opened, as in phlebotomy, into which is inserted a common injecting pipe of the dissecting-room. A vein of the arm of the healthy individual is next opened, and the blood collected in the cup of the transfusing apparatus; then the surgeon, after ejecting one or two syringefuls to exclude the air, injects a drachm or two into the pipe in the arm of the patient. The blood thus propelled into the exhausted circulating system, re-excites the heart, and puts the springs of life into action. It is only necessary to inject a few drops of blood to stimulate the heart; and probably the saline solution which was so extensively and beneficially used in cholera, is preferable to human blood. It is much more manageable; and by keeping the arm of the dying patient under water during the process, the admission of atmospheric air is with more certainty prevented, since a few bubbles prove fatal." (p. 110-113.)

The reputation of Mr. Lizars as a practical surgeon is sufficient to ensure a very favourable reception of his work by professional men, whether juniors or seniors. It will be found especially adapted to the use of the former; and as a benefit to the surgical student, it may be noticed that it is published at a very cheap rate. The illustrative engravings, which are very numerous, are for the most part well executed, but in some cases the plates appear to be much worn.

Transactions of the Medical and Physical Society of Bombay. No. VIII. For the years 1845-46. Large 8vo. pp. 122. Bombay: Graham. 1847.

This number contains some articles of local or military, and several of more universal interest. We shall present our readers with a short analysis of the latter.

Art. 2. Notes on Small-pox as observed in the Jamsetjee Jejeebhoy Hospital in the months of December 1845, January, February, and March, 1846, by C. Morehead, M.D.

The number of cases admitted was forty-nine. The mortality during three months was 46 per cent.; in the Native General Hospital during the last seventeen years it has been 29 per cent.; while 15 per cent. was the mortality for the last five years in the European General Hospital. Almost all were previously unprotected by vaccination or small-pox. In one only was vaccination undoubted, and the disease was modified thereby. It seems to be a law of epidemic small-pox in India that its seasons of prevalence are the winter and spring, and those of absence the summer and autumn. This law is not altogether peculiar to tropical climates. From the difficulty of propagating the vaccine virus during the same part of the year, additional evidence of the identity of the two diseases is afforded.

Art. 3 contains an Account of the Prevalence of Intermittent Fever at Hyderabad, in Sindh, during the autumn of 1843, by H. J. Carter, Esq., Assistant-Surgeon.

The prevalence of this fever was so extensive that after whole regiments were transferred to the hospital, and for upwards of a fortnight, Mr. Carter was the only medical officer in charge of two regiments. The rate of mortality varied, but was never very high. The disease appeared in April, when, after the success of Sir C. Napier at Hyderabad, the troops "were in the healthful enjoyment of that ease and relaxation which generally follows the cessation of hard campaigns and harassing duty." The physical condition of the country around Hyderabad favours the development of ague.

Art. 4 is a note, by Dr. Morehead, on the Supposed Uses of the Bile in the Function of Digestion. The chief of these Dr. Morehead considers to be, the freeing the intestinal mucous surface of epithelium, and thereby fitting it for absorption.

Art. 5. A Description of the Malignant Pustule as communicated from the Elephant, by Elijah Impey, Esq., Assistant-Surgeon.

Four cases occurred in persons who had assisted in examining the body of an elephant, which had died, en route to Poona, on the 29th March, 1846. A popular belief prevails in India, that the dissection of an elephant is followed by disease in the dissector, returning periodically at intervals of twelve months. Whether in the present case the ill consequences were to be attributed to some morbific influence peculiar to the normal fluids of the elephant, or to some morbid condition of the fluids of this particular elephant, there were not sufficient data to determine. The patients referred to in the instance before us, all recovered after indisposition of from four to five weeks. "No abrasion of the surface had existed in either case; so that it cannot but be believed as resulting from absorption through the integuments."

Art. 7 contains an Account, by H. J. Carter, Esq., of the Appearance of *Beriberi* among the Native Mariners of the H. C. Navy. The exciting cause of the disease could not be determined, neither did success attend any plan of treatment. The mortality was very high.

An Appendix to the volume contains—

1. A notice of the System of Breeding Leeches at Hyderabad in Sindh, by F. S. Arnott, M.D.
2. Notes of a Case of Congenital Hydrocephalus, in which the head was three times tapped, and which terminated fatally, by John Peet, Esq.
3. A Case of Rupture of the Interventricular Partition of the Heart from External Violence, by H. J. Carter, Esq.
4. A Case of Poisoning from Arsenic, by Dr. Morehead.
5. On the Freshwater Sponges in the Tanks of Bombay, by H. J. Carter, Esq.

De l'Urétrotomie, ou de quelques procédes peu usités de traiter les Rétrécissements de l'Urêtre. Par le docteur Civiale. 8vo. pp. 222. Paris and London: Ballière. 1849.

On Uretrotomy, or some unusual modes of treating Strictures of the Urethra. By Dr. CIVIALE.

THIS treatise contains a full discussion of the various modes which have been proposed for the dilatation and destruction of strictures of the urethra. The author's historical observations subject the plans of treatment recommended by other surgeons to a severe critical examination: we think his estimate, which is of an unfavourable kind, savours somewhat strongly of national bias, and that it is also slightly egotistic. The cases which are cited are interesting, and illustrate the several positions advanced by the author.

The greater portion of the work is occupied with the consideration of the division of strictures from behind forwards. The author has contrived a very ingenious instrument for this purpose, of which, as well as of several other instruments, engravings are given.

We quote the following, as expressing Dr. Civiale's views with regard to uretrotomy generally, and the conclusions to which his experience has led him with reference to the new method of operating which he advocates:—

> "It would be erroneous to suppose, with some surgeons, that uretrotomy constitutes of itself a method generally applicable, and superior to all other methods of treating stricture of the urethra. It is almost always necessary to dilate before cutting, and to complete the cure, it is requisite to dilate after the operation. The incision is but a means of assisting the dilatation, whereby the cure is rendered more speedy, less painful, and more certain." (p. 117.)

These observations, we must add, apply only to those cases which resist the ordinary modes of dilatation.

The propositions which the author considers that his experience justifies him in laying down, are as follows:—

> "1. That uretrotomy from behind forwards, as I have explained it, constitutes an improvement in surgical therapeutics.
>
> "2. That it is incontestably superior to every other mode of healing contractions of the meatus urinarius.
>
> "3. That in long, hard, and close strictures of the penal and bulbous portions of the urethra, long and deep incisions permit subsequent dilatation to produce results which could not be obtained without their aid.
>
> "4. That, by adopting the proceedings and observing the precautions I have pointed out, the operation may be performed without danger, without even exposing the patient to any serious accidents.
>
> "5. That the employment of incisions from behind forwards, without a guide, is a hazardous operation only justifiable in rare

cases, and for the purpose of facilitating the employment of other means." (p. 118).

Within the last three years the author has employed his new method in *twenty-two cases*. In eight of these, only one incision was made; in seven, two; in five, three; four in one case, five in another, and six in the last. All were severe cases. Eighteen were cured, three were relieved, and one died two months afterwards from previous disease and the operation combined.

This volume is a useful contribution to surgical literature; at the same time the value of the new mode of operating recommended by the author, can be determined only by future experience.

Proceedings of Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Tuesday, May 8, 1849.

DR. ADDISON, PRESIDENT.

Remarks on the Causes and Morbid Anatomy of Mental Diseases. BY JOHN WEBSTER, M.D., F.R.S., &c.

THE author commenced his paper by observing, that having had two of his communications already published in the 26th and 28th volumes of the Society's *Transactions*, on the Statistics and Pathology of Mental Diseases, he presented the present as a further exposition of the subjects then discussed. He then stated, in illustration of the comparative frequency of madness in the two sexes, that out of 1798 lunatics admitted into Bethlem hospital during six years, ending the 31st of December last, 1094 were females, and only 704 male patients. He next alluded to the causes apparently producing insanity, which he divided into moral and physical, besides hereditary tendency to mental disease. Of the male lunatics, nearly one half, or 346, became mad from moral causes; whilst the proportion of females was not quite so considerable, being 489 of the entire number. By physical causes, less than one-fourth of the male lunatics, or 156, became insane; whereas, amongst the female patients, the proportion was rather larger, being 282. Hence, speaking generally, moral causes produced half the total cases; but physical causes only one-fourth. The principal moral influence which occasioned insanity amongst males, was reverse of fortune, whereof 86 examples are recorded. Next, anxiety, which furnished 69 instances; then religion, giving 45 cases; lastly, love, which caused the loss of reason in 18 men. Amongst female lunatics, anxiety was the most frequent moral cause, producing 79 instances out of the 489 patients classed under the above category; whilst 69 cases arose from religion; 62 from the loss of relatives; and 57 from the more powerful influence of Cupid's tender passion upon the susceptible feelings of women. Fright caused insanity in 50 cases; reverse of fortune in 49; whereas, amongst men, as already stated, the same cause produced nearly treble that amount, speaking comparatively. In regard to physical causes, of the 156 male lunatics so affected, 80 originated from intemperance; and of the 282 female lunatics, similarly classified, 117 arose from puerperal disease. Other physical causes were subsequently mentioned by the author, before passing to the examination of hereditary tendency to mental complaints. Of 704 male lunatics previously enumerated, 219, or 31·10 per cent. had hereditary tendency to mania; but of the 1094 female insane patients, the proportion was larger—namely, 390, or 37·47 per cent. The author, amongst other remarks respecting the influence of hereditary tendency in producing mental disease, said, such an important fact, wherever it exists, should be always well considered by parties forming matrimonial engagements; especially, when both families are unfortunately so tainted. He next adverted to the age at which insanity is most likely to supervene. In males, he stated the most susceptible time of life was from 30 to 40; but in females it was earlier, being from 20 to 30. The author subsequently noticed the two sections of psychological physicians now dividing the profession—namely, the "vitalists" and the "anatomists," of which latter body he is himself a disciple, since he considers their doctrine the most rational, and in a greater degree consistent with the present advanced state of pathological knowledge respecting mental diseases. The author afterwards gave a synopsis of sixty-seven dissections made at Bethlem Hospital, of which the following is a summary of the diseased appearances observed in the brain and membranes. In 53 cases, effusion of water had taken place in the ventricles; in 53 cases, also, there was infiltration of the pia mater; in 38, turgidity of the cerebral bloodvessels; in 30, the arachnoid membrane was thickened and opaque; in 26, the colour of the brain was altered from its natural tint; in 15, there was an effusion of blood within the skull, besides other alterations of structure, as mentioned by the author. The organs of the chest were likewise more or less diseased in as many as 62 of the patients; whilst in 30, morbid changes were likewise noticed in the abdominal viscera: so much so, indeed, was this the case, that the immediate cause of death, in a number of the insane patients referred to in the present communication, was apparently disease in these parts; but more especially, affections of the organs of respiration. Dr. Webster then alluded to the long period during which some of the lunatics had laboured under mental aberration, particularly females, one female lunatic having constantly resided in the incurable ward at Bethlem Hospital for upwards of half a century, or actually fifty-four years; thereby showing that the loss of reason is sometimes not incompatible with longevity. After again referring to the deductions contained in his previous papers communicated to the Society, the author concluded by remarking, that the facts and statements now brought forward fully confirmed his former observations, and he hoped they might prove useful to students of medical psychology.

Mr. Solly, whilst he complimented Dr. Webster on the value of his paper, could not help regretting that no account had been given of the appearance of the cortical substance of the brain—that portion of the cerebral mass which was essentially connected with the intellectual manifestations. He thought we were in error, in our dissections of the brain, to view the organ as one whole; but that we should, as we did with the contents of the chest or abdomen, examine and describe each individual organ and part. Dr. Bright had referred to the colour of the cortical substance of the brain in some dissections of insane patients; and he (Mr. Solly), in examinations at Hanwell and elsewhere, had, as a general rule, found this portion of the brain higher coloured when excitement preceded death, but pale if the insanity had been of long continuance, and without excitement. He (Mr. Solly) had called this portion of the brain the "hemispherical ganglia," for want of a better term, and regarded its appearance after death as most essential to be mentioned in cases of insanity, One interesting fact was mentioned in the paper, and that was, the frequency with which the pia mater and arachnoid were found injected; these only acted in insanity, of course, by influencing the brain in their immediate neighbourhood. He therefore assumed that the brain so situated was affected, as this condition of the membranes was not sufficient to produce the insanity.

Dr. A. J. Sutherland was sure that the Society must feel much indebted to Dr. Webster for bringing under their notice such important information relative to the causes and the pathology of insanity. He did not know any subject so difficult as that which Dr. Webster had chosen. The causes of insanity were in many cases difficult to be ascertained; the friends themselves were frequently mistaken as to the real cause of the illness; and it was only now and then that we were able to correct the mistakes of the friends, from the symptoms of the case. But again there were these difficulties which beset us when we investigate the causes of the disease: what obtains in hospitals, such as Bethlem and St. Luke's, did not always obtain in other places; what prevailed among the patients of one class of society, did not equally prevail among those of another. Thus, the hereditary predisposition to insanity was, as stated in the paper, one-third; as stated by others, one-sixth among the lower classes; whereas it was as much as one-half among the higher. With respect, also, to sex, a greater proportion of females in the lower class, and a greater proportion of males in the higher class of society, become insane. Therefore we were likely to be misled if we took any particular class of patients as examples of what prevailed generally; for not only were there differences in the proportion, but there were differences in the species of insanity, in different places. Thus, in the agricultural districts of this country, the proportion of the insane to the sane, was as 1 to 800; while in the manufacturing districts it was 1 to 1200. But not only the occupation, but differences in climate and diet, appeared to have an influence in the production of this or that species of nervous disorder. Dementia and imbecility were supposed to be common in marshy countries; hypochondriasis abounded in Iceland; and in the Western Islands of Scotland, the nostalgia of the Swiss, the cretinism of the Vallais, and the pellagra of Lombardy, were also familiar instances. He differed in some respects with Dr. Webster, as to what he had observed relative to the pathology of insanity,—not, he meant, with regard to post-mortem examinations, which formed but a small part of the pathology of any disease, but with regard to pathology in its widest sense, drawn from the symptoms during life, as well as the appearances after death, —drawn from the causes, even from the treatment of the disease. He thought that Dr. Webster had done well in not considering the pathology of insanity apart from its causes; for as there were distinct causes, moral and physical, so were there distinct origins of the disease. The disorder might take its rise primarily from the nervous centres, or the different organs of the body. The liver, the uterus, and the stomach, might affect the brain, and insanity might be the consequence. Insanity, therefore, might be said in one sense to be idiopathic; in another sense, symptomatic: but whether the one or the other, it was the seat of the intellect and the affections which was deranged; and therefore we looked with peculiar interest to the cerebrum, to throw some light upon these difficult investigations. With respect to post-mortem examinations, his experience corresponded with the facts recorded in the paper. He had never found the results of acute inflammation in the brains of lunatics, and what Mr. Solly had stated with regard to the cortical structure was certainly correct—viz. that there is, for the most part, a state of hyperæmia in acute cases, a state of atrophy in chronic cases; there was also a disposition to venous congestion in some brains,—to active congestion in others; but the effusion into the sub-arachnoid tissue and into the ventricles, spoken of in the paper, and so frequently found in these cases, was rather the effect than the cause of the disease: in the acute stage it was probably the result of venous congestion, and in the chronic stage it was due to atrophy of the brain; just as the spinal marrow becomes atrophied in tabes dorsalis. But he apprehended there were few who would think that what we saw after death was all that had occurred during the progress of the disease, and therefore the pathologist would be inclined to apply to the symptoms which he had seen during life, and to the analysis of the different fluids of the body, to help him in his investigations. With respect to the former, the symptoms which the intellectual faculties furnished were those of undue activity on the one hand, and of extreme dulness on the other, while the physical symptoms were generally those of irritation; sometimes of congestion, never of acute inflammation. From the analysis of the blood of insane patients, we knew that there was no excess of fibrin; while, from the analysis of the urine, we obtained sometimes a plus quantity, sometimes a minus quantity of the phosphates: thus confirming, as far as it went, the evidence which we derived from other sources. With respect to the analysis of nervous matter, L'Héritier had shown that there was a minus quantity of phosphorus in the brains of idiots, and Couerbe asserted that he had found a plus quantity of phosphorus in the brains of maniacs. But not only was it a matter of importance for us to ascertain the quality of the blood, but it was also requisite to estimate the quantity which circulated in the brain. Not only had we examples of insanity from the poison of other diseases from bad blood, but we had examples from local congestion of the brain, and from anæmia. Many patients were admitted into St. Luke's, whose disease had originated in low diet and starvation,—in whose brains might be supposed to have commenced that process of oxidation which Liebig called "eremacausis." But we should also feel inclined to examine into the condition of that subtle fluid, the nervous force, which ministered to those influences by which the mind manifested its ideas, and which, when disordered, counteracted and obscured its development. These were the heads of some of those subjects which he trusted at no distant period might throw light upon the pathology of insanity.

Dr. **Webster** said, that in reference to Mr. Solly's remarks respecting the morbid changes in the cortical substance not being sufficiently distinguished from the appearances observed in the medullary,—this arose from the fact, that only a summary, not the particulars, of the various autopsies were detailed to the Society. Had the synopsis been read entirely, the points adverted to by that gentleman would have been explained. All the morbid changes noticed were accurately mentioned; and when it was remembered that most of the dissections had been made by so distinguished an anatomist and physiologist as Mr. Lawrence, this must be a sufficient guarantee of their value and accuracy. Dr. Sutherland had alluded to the influence which climate, geographical position, and the civil condition of individuals, exerted in the production of insanity. In many of these remarks he fully concurred, and would even affirm that the religious, political, and social status of the inhabitants in particular countries materially affected the results produced by ordinary exciting causes. For instance, insanity is a much more common disease in cold climates than in temperate or warm countries. In Sweden and Norway, a larger proportion of the inhabitants become mad than in any other part of Europe. The disease is more frequent in North Germany than in the southern part of that empire. Mania prevails more in Belgium than in France, in the northern departments of which latter country it is met with in a higher ratio than amongst the natives of the south. In Spain the disease is less common than in France; whilst in Northern Italy insanity is reported to be twice as common as in the southern part of the Italian peninsula. Again, on the southern shores of the Mediterranean, the disease is still less frequent—as in Egypt, Syria, &c.; and in Arabia, mania is so rare that it is seldom observed: indeed, a chief physician to the great hospital at Alexandria has stated, that during ten years he had only met with one insane Arab, notwithstanding the number of Arabians in Egypt, and the large population of that city. To show the influence which agitation and great mental excitement produce amongst the inhabitants of a country in reference to the disease under discussion, he (Dr. Webster) might mention that madness was frequent amongst the Crusaders, whilst the disastrous effects of this enthusiasm continued long afterwards. During the reformation, in Germany, the Low Countries, and in Britain, insanity became common; likewise during the civil wars of England, and the domination of Puritanism under the Long Parliament and Cromwell. The first revolution in France caused many cases of insanity, and when Napoleon upset dynasties, made kings, queens, and titled personages, 'almost by wholesale, imaginary sovereigns and princes were numerous in the asylums of France and Germany, of which Pinel gives examples, and tells us that in Bicêtre there were, at the same time, three Louis-the-Sixteenth maniacs under treatment. As stated in the paper, the recent revolution in Paris had produced most melancholy results on the minds of many individuals of that formerly gay capital. He (Dr. Webster) could say so from his own personal observation, verified by the experience of physicians attached to lunatic establishments, private as well as public, of that country, where political excitement, clubbism, and the late *bouleversement* of public institutions and private fortunes, have occasioned very lamentable consequences. Dr. Sutherland remarked, although more females became insane in the lower ranks of society than men of the same class, still, amongst the higher grades of people in Great Britain, more men than women were affected with madness. This was certainly true to some extent, especially as hereditary tendency to mania appears more prevalent in the upper than the lower classes; and purity of blood, as it is erroneously called, often influences matrimonial engagements to a greater extent than amongst the commonalty. This was formerly well exemplified amongst the old noblesse of France, the clans of Scotland, and the *sangre azul*, or blue blood of the Spanish *grandezza*, in all of whom mental and physical qualities were then transmitted to offspring in greater purity, whether for good or evil, than amongst the more mixed blood of common people. Notwithstanding the facts alluded to by Dr. Sutherland, insanity was generally more common in women then men throughout England, as shown by the recent report of the Lunacy Commissioners; and as the patients treated at Bethlem Hospital were not paupers, but often persons of education, such as governesses, clergymen, merchants, and many others of a similar situation in life, but broken down by disease as well as poverty; and as they come from all parts of the country, are not confined to the metropolis, but often the reverse, the results thus met with respecting the two sexes therefore constitute a good criterion, and support the conclusions stated in the present paper. Religious persuasion exerts considerable influence in this malady; at least, it seems to be more common among Protestants than Catholics, and prevails to a greater extent in converts and proselytes, than in persons of confirmed steady faith; whilst it is oftener met with in countries where religious controversies are common, than elsewhere. Many other points might also be mentioned, bearing upon the question of insanity; but, although interesting, he would not trespass upon the time of the fellows further than to observe, that the chemical investigations alluded to by Dr. Sutherland were most important, and deserved the attention of practitioners; that physician had already done much to elucidate this subject, and he hoped soon to see more accomplished in the above branch of medical science, as applied to mania. The field was both rich and extensive, and now that the profession generally had begun to study mental diseases, their nature and treatment, in the way they deserved, much benefit would thereby accrue, as well to medical men as, through them, to the community.

Mr. Streeter considered the Society deeply indebted to Dr. Webster for the large amount of information drawn from the records of Bethlem Hospital, which he had placed before its fellows. No one had taken so much pains as Dr. Webster to make the experience of that institution available to the profession; and his papers certainly afforded valuable materials for the study of insanity. When, however, Dr. Webster called upon medical men to apply themselves to the study of this disease, he begged to inquire where the facilities for following out that study existed? They were certainly not to be found in the general or special hospitals of this metropolis. It might be truly said that means were not afforded to the members of the profession for qualifying themselves for the duties they were called upon to perform in domestic life, and in civil and criminal courts, in the questions that continually arose in reference to insanity. The consequence was, that they were far from being so highly prepared as the bearings of this disease upon many of the most important interests of society rendered desirable. Dr. Webster had certainly omitted much that was required for the complete study of insanity; but when Mr. Solly alluded to his omitting to describe the colour of the hemispherical ganglia, or, more popularly speaking, of the cineritious exterior of the cerebral lobes, knowing the belief which Mr. Solly entertained of this part comprising a series of ganglia, each performing separate and independent functions, and not being a single organ, he felt disposed to ask, why, in the account of his dissections at Hanwell, Mr. Solly had spoken of the cineritious structure generally, and without any attempt to localise its morbid appearances. On several occasions he had seen the morbid appearances of the cineritious structure localised. In puerperal mania of rapid termination, the point of the posterior lobe had acquired a much deeper colour; and, in many instances, where the convolutions were carefully unfolded, one after another, morbid changes of colour and structure would be detected, that would otherwise escape observation. And here chemical and microscopical investigation promised to be useful. It was, however, in that stage of insanity which was most interesting to the family medical attendant that these communications were most defective. He meant, the approach and incipiency of insanity—that stage in which the disease was most amenable to medicine—that to which Dr. Winslow had given the term of incubation. He had heard, with pleasure, the distinction pointed out by Dr. Sutherland of centric and eccentric cases,—a distinction of great practical value, as he believed the eccentric, as in other nervous diseases, were more easy of cure. As an illustration of this, he would mention the rapid removal, in many cases, of the excitement and delusions of delirium tremens by the influence of opium on the stomach and intestines. He might also adduce, as proofs, the cases of curable insanity connected with uterine disease, which Dr. Lever had recently brought before the profession. He himself considered that the foundation of intemperance and insanity, in after life, in females, was often laid by the prevailing opinion, that vaginal and uterine discharges always indicated weakness, and a state of system requiring stimulation and fermented liquors. Great caution was required before removing them by local means. He thought Government must, at no distant period, insure the means and enforce the study of insanity upon the profession generally, since all were called upon to perform duties connected with it. In conclusion, he alluded to the set which had for some time past been made against doctors, by the higher grades of lawyers, in reference to generally-received opinions upon insanity. He would say, that if it was the province of their profession to hinder crime from escaping punishment, by simulating insanity, it was the high calling of ours to prevent insanity from being visited and treated as crime.

Dr. Sibson said it was remarkable that in Dr. Webster's paper so few cases of *ramollissement* or of induration had been enumerated. The blood that had been found in some cases, the fluid in others, and in others, again, the thickening of the arachnoid and pia mater, were the most commonly observed changes which were found in cases of diseases in which insanity was not present. He regarded the chemical results as the most definite in this inquiry. But we need not look at the brain only in our investigation into the pathology of insanity. The internal organs required to be examined also. The effects of conformation had their influence in the production of this disease. The condition of the stomach, the uterus, and of the heart, required to be looked to. He considered that at the present moment we were not in a condition to say that we had been able to trace a clear and distinct connexion between the brain and insanity; at all events, all the changes which had been enumerated, might exist in the brains of those in whom insanity had not been present; and when met with in the brains of the insane, he thought they were only the consequences of the insanity. Besides the inquiries into the effects of climate, and the other points mentioned by Dr. Sutherland and Dr. Webster, he thought we should extend our observations to the texture of the skin, the hair, &c. Muscular conformity, the size of the lungs, the power of the heart, the condition of the abdominal organs, and of the digestive apparatus; indeed, the state of every limb and of every fibre in the body constituted an element of inquiry in cases of insanity.

Dr. Webster remarked, as it seemed to be implied from the observations of previous speakers that he had omitted to notice the symptoms and treatment of mental diseases, he must state, to prevent any misconception of his object in the present communication, that this was done purposely, his remarks being confined to the causes and consequences of the above class of affections. The subject was too extensive to admit of any other proceeding; and in respect of the remarks made by Dr. Sibson as to temperament, physical conformation, colour of the hair, texture of the skin, and so forth, these points had by no means been overlooked by psychologists; on the contrary, great attention had been recently given to similar inquiries, and much valuable information thereon collected. Some physicians have also even shown that the colour of the eyes was important; and M. Foville, recently physician to the asylum at Charenton, but from which he was displaced by the late red republican government, considered the configuration and structure of the external ear as often indicative of insanity. This peculiar appearance of the ear, M. Foville has pointed out to him (Dr. Webster), when lately visiting Charenton, and he had since seen the same thing in this country; indeed, it had been noticed by others previously. The observation of Dr. Sibson respecting the importance of studying the connexion of symptoms with the pathological appearances met with after death, could not be overrated; and, although nothing was said in the paper, for the reasons already adduced, there could not be any doubt respecting the advantages of such an inquiry, and he hoped subsequent investigators would supply this deficiency. Reverting again to the causes producing insanity, it might be interesting to state, that intemperance, owing to the improved habits of the people in this country, did not seem to be so frequent an exciting cause of that malady as formerly; on the other hand, the now prevalent habit of smoking tobacco, had very much taken the place of intoxicating drinks; and in America, where intemperance, chewing opium, and smoking, were enumerated amongst the causes producing mental disease, considerable attention had recently been directed to the subject. In his (Dr. Webster's) opinion, this filthy custom was most injurious, as well to body as mind; and whether intoxication was produced by spirits, opium, or by tobacco, all were abominations, and he believed physicians conversant with mental maladies were every day becoming more and more convinced of the bad effects arising from this narcotic weed; whilst in some asylums its use amongst the lunatics was strictly prohibited. If he (Dr. Webster) did not farther advert to other points connected with the subject under discussion, it was not through want of inclination, but from the desire to confine his remarks to questions mooted in the present communication. However, as the study of insanity was now assuming the place in medical education which its great importance deserved, he had not a doubt but in due time every information would be supplied by the diffusion of sound practical knowledge.

WESTMINSTER MEDICAL SOCIETY.

Saturday, May 12, 1849.

MR. HIRD, PRESIDENT.

Disease of the Kidney.

DR. ROUTH exhibited two diseased kidneys. The patient to whom they belonged had been under treatment, for about a week, at the Royal Free Hospital, for obstinate vomiting and constipation. He had taken diluted prussic-acid draughts and croton-oil pills, without effect. Indeed, he had gone on from bad to worse, till at last he became so weak from inability to take food, as not to be capable of walking. Dr. Routh saw him first on the 9th of May. His previous history was as follows:—He had had an ulcer in the thigh, which had healed about the beginning of the present attack. He had been ailing more or less for a twelvemonth, though still able to follow his occupation as painter. For twelve years back he had suffered occasionally from what he called a stricture. Had never had syphilis, gonorrhœa, or used injections. Sometimes he was able to pass water in a full, sometimes only in a scattered stream, sometimes it would stop suddenly. There was occasionally anal irritation. The urine was sometimes very dark; indeed, he stated he had occasionally passed blood. This he had last observed two or three days back; his habits were regular. Present attack occurred about ten days back, with more or less nausea, or vomiting and constipation. Notwithstanding the medicines given, the sickness became more troublesome. The complexion was yellow, sallow, giving the idea that malignant disease existed somewhere. Intellect clear; no cough; sleepless; heart sounds weak; pulse very feeble and frequent; he was much troubled with hiccough, which came on in paroxysms of half an hour to an hour. These seemed to be brought on by any exertion in talking, or attempt to swallow food. Could not keep anything liquid or solid on his stomach; abdomen soft, somewhat tympanitic, except in region of transverse and descending colon, where it was harder; no pain in epigastrium; no pain across the loins, though this symptom had been present a fortnight since, but it had yielded to a mustard poultice. Had made water, but none was saved; bladder empty. Ordered: creasote, and diluted hydrocyanic acid, of each three minims, with water half an ounce, every two hours, till the vomiting stopped; a croton-oil pill every six hours; to take gruel or arrow root, by the teaspoonful at a time, and frequently. On the 19th the hiccough was less, but the sickness was no better; bowels not relieved; complained of great weakness; was pulseless at the wrist; heart-sounds irregular; to have wine and ammonia; a turpentine injection immediately. Dr. Taylor saw him the same night at ten; he was *in articulo mortis;* bowels had not been open; died at eleven.—*Post-mortem thirty-three hours afterwards:* Brain, arachnoid membrane contained in the sub-cellular tissue, and about half an ounce of serum might be contained in all the ventricles together; in other respects healthy; spleen, liver, pancreas, lungs, healthy; heart healthy, excepting the right auricle, which in one part was exceedingly thin. The cavities contained large polypi; intestines contained some fluid and solid fæces; the jejunum having its villi very prominent, somewhat thickened; the capsule tearing off readily and clean. On section, the substance of the kidney was mottled here and there, especially in the pyramidal portion, which appeared striated, hard, yet somewhat elastic. Here and there were patches of a tubular form, about the thickness of an ordinary quill, very white, varying in length from two lines to half an inch long, containing granular and calcareous deposits. The right kidney presented generally the same appearances; in addition, there were one or two pouches in the pelvis of the kidney, somewhat dilated, and a small cavity, about the size of a pea, in the substance itself, containing sanguineo-purulent fluid. The inferior and posterior surface of the kidney was adherent to the psoas muscle, between which and it there was a collection of pus which extended upwards to the twelfth dorsal vertebra, and downwards to the pectineal line in the sheath of the psoas; and superiorly, also, infiltrated in the substance of the muscle itself. Vertebræ healthy. The ureters healthy. Bladder contracted, and somewhat thickened in its coats; contained about half a teacupful of clear urine, with a sanguineo-purulent sediment; reaction feebly alkaline. The opening in the prepuce was scarcely perceptible; between it and the glans was some clear mucus and blood; no stricture could be detected in the urethra. The case was important, from the urgent symptoms during life being rather those of intus-susception, or strangulated intestine, than of any active disease about the kidney; nor did it clearly appear how the secondary abscess had been produced, and should have so rapidly proved fatal. The cicatrix of the ulcer on the thigh was examined; it was found to be superficial, nor was any purulent formation, or diseased bone, found in its neighbourhood.

Mr. Canton exhibited a specimen of

Disease of the Left Side of the Heart.

The patient was a spare, delicate female, aged thirty-seven years, who had, a few days previously, dropped down suddenly and expired. When seven years old, she suffered from a severe attack of acute rheumatism, and has occasionally, since then, been affected, on change of weather or exposure to cold, with pains in one or other of the large joints. Whether there had been metastasis to the heart in the first attack, or not, could not be ascertained. *Autopsy:*—The heart was larger than natural; the right side of it healthy; the left ventricle was more than thrice its normal thickness; mitral valves of great consistence, with narrowing of the auriculo-ventricular orifice; the semilunar valves were indurated, stiffened, and puckered, so as to be diminished in their vertical and transverse directions; their free margins were swollen and slightly notched. The aorta, above the valves, for the extent of an inch and a half, was irregular on the inner surface, from subjacent deposit of atheromatous and bony matter; a well-marked undulating line terminated abruptly this diseased appearance, whilst the whole arch of the aorta was generally thickened, though the lining membrane was healthy.

Dr. Skiers described an operation for imperforate anus, and Dr. Cormack read a paper on puerperal convulsions, both of which we shall notice in a future number of the Medical Gazette.

MEDICAL SOCIETY OF LONDON.

Monday, May 14th, 1849.

Mr. Hancock, President.

Mr. Hancock related the following case:—A boy was admitted into the Charing-cross Hospital, a fortnight since, with severe injury to the shoulder-joint, and placed under the care of Mr. Hancock. A week previously, a woman beat him about the shoulder, on the Sunday afternoon, with a boot-jack: he did not complain much about it at the time, and went to work the following day, wheeling a barrow at the brickfields, where he was employed. He says, that he could at this time move his arm about in any direction, and that he raised it to his head without any inconvenience; he continued at his work until the Tuesday evening, when his arm became so painful that he was obliged to go home to bed. He did not apply for advice until the following Saturday, when he sent to Mr. Hassall, of Notting-hill, who, ascertaining the existence of fracture, with a large collection of matter about the shoulder-joint, sent him to Charing-cross Hospital, to Mr. Hancock. At the time of his admission, a fracture could easily be detected, close up to the joint, but as the constitutional symptoms were not very urgent, it was deemed advisable not to interfere more than was absolutely necessary; a splint was accordingly applied, and the patient placed in bed. On the following Tuesday, the part being very painful, red, and swollen, a free incision was made into the most prominent point, and a very large quantity of unhealthy, offensive matter, let out, and by introducing the finger into the cut thus made, it was ascertained that the bone had been broken just at its epiphysis, that the periosteum was completely stripped off from the upper two or three inches of the shaft, whilst the head remained in the glenoid cavity, the capsular ligament being injured, and the joint opened into. The patient suffered so much from constitutional irritation, that it was decided in consultation that the head of the bone, and the exposed portion of the shaft, should be removed by operation, which was accordingly performed by Mr. Hancock, on Wednesday, the 9th inst. He began by carrying a semilunar incision from the coracoid process, across the deltoid muscle, to the posterior part of the acromial process; the flap thus made was easily reflected, and the operation completed without any difficulty; the extremity of the bone was then brought up to the glenoid cavity, and preserved in that situation, and the patient returned to his bed. The operation, which was performed whilst the boy was under the influence of chloroform, was followed by marked and almost instant relief, and the patient has continued to improve up to this time. Mr. Hancock said, that the principal point of interest in his case was the extent of motion which existed after the receipt of the injury.

Mr. **Dendy** inquired if the bone, which was exposed, would exfoliate, or was it not denuded of periosteum?

Mr. **Hancock** hoped the portion of bone which had been exposed would recover. He believed, indeed, from the nature of the discharge, that it retained its vitality, and would get well. Since the cut made in the thorax, to let out confined matter, the patient had been steadily improving.

Mr. **Hird** said, the case of Mr. Hancock was interesting, as showing the value of an operation which, while it saved the limb, formed a new joint. A few years since the limb would have been sacrificed. With respect to similar accidents about the hip-joint, he related a case in which the patient walked for some distance, the fracture not being discovered for two or three days. He mentioned a case also of fracture of the neck of the thigh-bone, in which the man walked some distance after the injury, and another case, in which the nature of the injury was not discovered until three or four days afterwards. With respect to the question, as to whether the portion of bone denuded of its periosteum would perish, he had seen several cases in which the bone had been so denuded, but still retained its vitality, when the structure of the bone was uninjured and the periosteum torn off; but lying close to healthy soft parts, a recovery might be expected to take place.

Dr. **Crisp** thought, in Mr. Hancock's case, that at first there had been fracture without separation, and that the separation was the result of inflammation and ulceration subsequently setting in.

Mr. **Hancock** had considered that the bone had been broken but not separated.

Mr. **Harrison** recollected the case of a man, the driver of a cart, who fractured his leg from slipping in a rut. He received a shock at the time, and felt faint, but walked home, a considerable distance. The foot then began to swell, and the next day Mr. Harrison saw him; there was then much swelling, but no shortening or displacement, and after the swelling had been reduced, a transverse fracture of the tibia, a little above the ankle, was found. The man had worn a long laced-up boot, and this perhaps might have explained the reason of no displacement taking place.

Mr. **Pilcher** agreed with Mr. Hancock that the bone had been broken in the first instance. Cases had occurred in which the tibia had been broken, the patients walking a long distance after. When the fibula only was fractured, the fracture might exist for some time without being suspected. It was common for fracture of the clavicle to be undetected for some time. He mentioned the case of a horse of his own which had slipped down and was driven about for two or three days afterwards. It was found then that the poor creature had received a fracture of the ilium, but the broken bone had been kept in apposition by the surrounding muscles. It was not necessary that a bone should exfoliate when denuded of its periosteum, and he mentioned some cases in which, even when the bone had been extensively diseased, and denuded of its periosteum, recovery took place.

ROYAL INSTITUTION.

May 18, 1849.

Mr. Sidney *on the Geographical Distribution of Corn Plants.*

The first part of the lecture was occupied by a definition of many of the interesting facts embraced in the science of physical geography. For the elucidation of these we refer to the valuable works of Humboldt, to Mrs. Somerville's Physical Geography, and to Johnston's Physical Atlas.

The geographical distribution of the corn plants is regulated by the isotheral or average summer temperature. Spelt, wheat, and barley are found growing wild in Persia, and it is probable that Mesopotamia was the original birth-place of these kinds of grain. The corn plants will only grow in this country under the influence of cultivation: if seeds be dropped at the sides of cultivated ground they will grow only for one year, and then disappear. According to Mr. Sidney, the mummy wheat, as it is called, is not really ancient wheat, but has probably been placed in the coffins by a trick of the Arabs.*

Wheat is only found to grow in a region limited by the isotheral lines of 57° and 70° north latitude; while barley is successfully cultivated between the isotheral limits of 46° and 60°.

Neither rice nor maize can be cultivated to advantage in this country, as the former grain requires 73 degrees of isothemal temperature, and the latter 66°.

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* This is by no means an improbable supposition. Some years since there was a Jew at Cairo who acquired great repute by the manufacture of mummies! These were put into old sarcophagi, and found a ready sale as the remains of genuine priests or grandees of the days of Rhameses and Sesostris. No reliance can be placed on the genuineness of the contents of the sycamore coffins which have once been opened by the Arabs.

There is no reason to fear that the ordinary grain of this country will be insufficient for the public food; in illustration of this, the lecturer exhibited a remarkable specimen of wheat, in which one grain had increased at least 1500 fold.

Correspondence.

DISPERSION OF AN ENLARGED BURSA OF THE PATELLA BY A FALL ON THE KNEE.

SIR,—I send you the following case for publication in your journal, not having heard of a similar one, and thinking, from its rarity, you might give it insertion :—

A young woman, aged 19, who had formerly been in service, applied to me about a month ago with an enlarged bursa, of the usual size and form, over the patella. She stated that she had only observed it during the previous three weeks: it gave her no pain, but merely inconvenience in walking, by causing stiffness in the joint. I applied cold lotions, with counter-irritants, for a few days, when she came to me one morning and told me her knee was quite well, and that all the swelling had disappeared. This sudden cure was caused by a fall upon the knee. She stated that she was going up a low step, when her foot caught the edge of it, and she tripped, and fell with all her weight on the enlarged bursa: she felt it suddenly burst, but experienced no pain. No inflammation has arisen, and there has been no return of the swelling, now nearly a month since the fall.

This case is interesting, as showing that the enlarged bursa of the patella may be dispersed by rupturing the sac, with impunity, in a manner similar to those of ganglia in certain situations, as in the back of the wrist, the instep, &c. Although the case I have quoted was one of accident, it equally well illustrates the fact, and naturally suggests the question whether, in recent enlargement of the bursa of the patella, where there is every reason to suppose the sac to be thin, this accident might not be imitated, by applying mechanical force in a manner to produce sufficient pressure to cause its rupture, and thereby avoid a long and tedious, and, at the same time, often unsuccessful, mode of treatment. It appears to me worthy of trial.—I have the honour to remain,

Your obedient servant,
EDW. F. LONSDALE.

26, Montague Street, Russell Square,
May 18, 1849.

Medical Intelligence.

THE CHOLERA IN PARIS.

THIS fatal disease continues its course in Paris, attacking persons of all ages and in all quarters. On the 16th and 17th of May, there were, in the two days, 205 cases and 124 deaths. Since the first outbreak in March, up to the 22d inst., there have been 5,911 cases and 2,993 deaths. The medical attendants at some of the hospitals have fallen victims to the disease.

THE GRESHAM LECTURES ON PHYSIC.

THE Course on "Physic," for Trinity term 1849, by Dr. Southey, M.D. F.R.S., will commence this day, in Basinghall Street, at 12 o'clock, and terminate to-morrow. The Gresham Trinity course consists of only *two* lectures! Parliament has shown great zeal in its visitation and reports on Public Charities. We trust that the time is not far distant when there will be a Parliamentary inquiry into the mode in which bequests for scientific purposes are managed. It is notorious that the Gresham lectureships as at present managed are gross jobs. The Corporation of London and the Mercers' Company should be deprived of this power of creating sinecure offices, at the charge of a munificent citizen, whose bequest was intended for the benefit and instruction of the public.

THE EFFECTS OF THE CLUBS OF PARIS ON THE CEREBRAL FUNCTIONS. SPREAD OF INSANITY AS A RESULT OF POLITICAL EXCITEMENT.

IN these tumultuous assemblages, the orator who can most successfully arouse the passions and the fury of his auditory is most loudly applauded; while the speaker who addresses himself to the understandings of his hearers in the calm and dignified language of reason, receives neither attention nor sympathy. The atmosphere of this arena of excitement is heated by the applause of the multitude, and by the nature of the topics discussed. Each member has a right to take a share in the discussion. The members do not meet to learn their duties, but their rights ;—their pride, inflamed by a vicious socialism, is exalted to its highest pitch—their self-importance is exaggerated —they suppose events to be dependent on their own false views. Each member is led to imagine himself to be a profound master of political philosophy, and that it is his mission to teach others,—he believes himself an orator, a philosopher, and the arbitrator of the fate of kings and nations.

Fearful consequences result to these deluded beings from the moral influence of this excessive stimulation of pride and self-love — at all times the copious source of mental disease. From these schools of sedition emanate all the horrors of strife and madness. The slumbering embers of insanity are here more surely fanned into the flames of mania than even in the days of St. Simonianism, when sometimes, at the assemblies of its priests, by the discussion of the blessings of the expected advent of their new religion, their passions were aroused, and their heated imaginations carried them forward through the various grades of mental excitement, to the complete overthrow of reason by their enthusiasm,—and the most unmanageable maniacal fury terminated their orgies.

The clubs, however, have paid much heavier penalties than even St. Simonianism. The asylums are filled with lunatics of recent date. There are to be found the sad consequences of civil war, of loss of fortune and rank; but still more numerous, the insanity emanating from the clubs,—the feeble intellect overthrown by conceit,—the madness of pride,—of personality,—of *self-worship*. The lunatic clubbist fancies that he is born to a marvellous destiny, no less than the equalization of taxation; the abolition of national debt; the elevation of the poor, and the pulling down of the rich.

It is not only in asylums that such men are to be found, but at this time, when exaggeration is the order of the day, a great number of insane remain mixed up with the sane, participating in all the emotions of the moment, and nourishing their madness. These persons constitute, indeed, the ordinary frequenters of the political clubs, and become the instruments of the evil-intentioned; their sentiments differing but little from those of the unfortunate inmates of the asylums.

To permit any longer the influence of these fomenters of insanity, is to leave uncontrolled the march of a contagious pestilence. They attack not only human life, but they strike at the very root of social life. A remedy is called for.—*L'Union Médicale*, Feb. 1849.

⁂ Since this article was written, the remedy has been applied; the clubs have been suppressed by the French Government.

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SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN IN LONDON AND ITS VICINITY.

THIS Society has received a donation of ten pounds from a Benevolent Fund, at the disposal of the Council of the British Medical Association.

MEDICAL APPOINTMENT—GUY'S HOSPITAL.

MR. JOHN BIRKETT was appointed Assistant-Surgeon to Guy's Hospital on the 23d instant.

ROYAL COLLEGE OF SURGEONS.

GENTLEMEN admitted members on the 18th inst.:—W. Henderson—N. S. Wood—S. Partridge—C. A. Poole—R. Creighton—H. D. Smith—T. T. Frankland—T. C. Marrett—F. J. Gant—T. L. Ridley—G. Wilson.

DEATH OF DR. STREETEN.

IT is with regret we this week announce the death of Dr. Robert J. N. Streeten, the editor of the Provincial Medical and Surgical Journal. We take the following notice of this event from the last number of that Journal.

Dr. Streeten had been suffering for some months from a bronchial affection, the consequence of an attack of influenza which seized him in the early part of the month of January. This left him in a very weak state of health, for which he was induced to try the air of Torquay; here, however, a new train of symptoms supervened, implicating the alimentary canal. For some days he was distressed with continual vomiting, which seemed to relieve the bronchial symptoms, but never entirely left him, and he gradually lost flesh and strength up to the day of his decease, which took place on Thursday the 10th instant.

OBITUARY.

DIED, on the 18th instant, in the 30th year of his age, W. L. Grundy, of fever caught during the exercise of his duty as one of the Medical Officers of the Wolverhampton Union.

Selections from Journals.

ANIMAL CHEMISTRY.

ON THE CHEMICAL STATICS OF THE HUMAN BODY.

M. BARRAL submitted to the Academy of Sciences, a comparative analysis of the food and evacuations of men, in order to determine the actual daily loss and gain of the body. The conclusions at which he arrived are—

1. The quantity of carbon daily consumed in respiration is greater by one-fifth in winter than during the summer.

2. The proportion of nitrogen in the food exceeds that contained in the evacuations. The excess exhaled by the perspiration is equal to about one-third or one-fourth of the quantity ingested; and in the proportion of about one one-hundredth of the carbonic acid formed. Under good feeding the proportion of carbon to nitrogen is about 100 to 8.

3. Oxygen and hydrogen are not found

in exact proportions to form water. There is always in the food an excess of hydrogen, which may be considered as combining with oxygen during respiration. This hydrogen is equal to about one-third of the carbonic acid formed. The evacuations contain more hydrogen than the food in the proportion of about 8 to 5.

4. The oxygen which contributes to the formation of carbonic acid and water is, in relation to the food, about 1 to 3.

5. The water formed during respiration, as well as that taken with the aliment, is equal to about sixty-seven hundredths of the food, plus the oxygen of the air which combines with it.

6. The water in the perspiration a little exceeds that of the evacuations. But in an old man it was found lower by a third. The proportion of chlorine is sometimes greater, sometimes less, in the evacuations than in the food.

7. The following is given as the equation of the chemical statics of the human body:—

Ingesta = 100 = Evacuations.

Ingesta		Evacuations.			
Solid and liquid food.	Oxygen.	Water of perspiration.	Carbonic acid.	Solids.	Loss.
74·4	25·6	34·8	30·2	34·5	0·5

In general the perspiration is to the evacuations as 2 to 1, but the reverse has been found in an old man.

The mean heat lost by radiation hourly in the summer is as 1,250 to 1,750 the loss in the winter season.

The following equation represents the loss and gain of heat:—

Heat evolved.	Carried off by perspiration.	By the air in respiration.	In the food.	In the evacuations.	Loss by radiation and contact.
100	= 24·1	+ 7·3	+ 2·2	+ 1·8	+ 64·6

Comptes Rendus. x

REPORT OF A CURIOUS CASE OF ENTEROTOMY. BY JOHN G. KYLE, M.D., CEDARVILLE, OHIO.

In the spring of 1846, I was called to see ——— Moore, a boy, aged two years: had been a very strong, healthy, and fleshy child: now weak, much emaciated, and suffering great pain in the bowels: face pale, extremities cold, no appetite, secretions nearly natural, abdomen very tender on pressure, with a swelling or ridge semilunar in shape, commencing on the left and terminating on the right side of the abdomen, and running so nearly to divide the umbilical from the right and left iliac regions, about fourteen lines in width, and one or two in height, skin slightly reddened, with the appearance of pointing at the extremity of the swelling on the right side, as if some foreign body was trying to make its way out, being, as yet, however, rather uncertain what direction it should take, in order to reach its intended destination.

The history of the case was, that fourteen days previous to that time, the boy was badly choked by something, which, after some considerable difficulty, he swallowed; after which, his parents noticed nothing peculiar for two or three days, when he became fretful and peevish, lost his appetite, and had pain in the bowels. The parents thinking their child had colic, gave anodynes, cathartics, and almost every thing else; but finding him growing worse, and sinking rapidly, brought him to the village where I then resided, Roundhead, O., for advice. Being called on, I found the boy in the condition already described. The history of the case, with the then present symptoms, led me at once to conclude that the boy had swallowed some solid indigestible substance, and, it having become entangled in some fold of intestine, had passed through its coat and was now pointing to the surface, and that an operation would be necessary to relieve the boy. The parents were, however, rather doubtful about the success of an operation, and asked until the next morning to deliberate on the matter, to which I readily assented.

When the morning came, Mr. Moore called, and requested me to call and operate on his son, as he believed he would die soon, unless immediately relieved.

The symptoms more aggravated than yesterday. I, in the presence of Dr. A. De Long, L. M. White, Esq., and several other gentlemen, proceeded to operate in the following manner:—The boy being secured, I made an incision ten lines long about equi-distant from the umbilicus and ant. sup. spinous process of the right ileum, cutting carefully through the integuments and abdominal muscles: a foreign body could now be felt under the peritoneum, which I punctured with a sharp-pointed bistoury, and brought to view a brown corn straw, which I seized with a small pair of forceps, and drew out: applied simple dressings: the wound healed by the first intention and the boy regained his health in a short time. The corn straw was forked near the middle, measured thirty-three lines in length, one in diameter, and at the fork nearly three lines across, It had evidently been swallowed by the boy fifteen days previous to the operation.

The novelty of the operation, the causes which led to it, and the happy result of the same, are the only apologies the writer has for thus making this case known to his professional brethren.—*Philadelphia Med. Examiner.*

ORGANIC CHEMISTRY.

ON THE EXISTENCE OF TWO NEW BODIES IN THE SERIES OF AMYLE COMPOUNDS.

The investigations of MM. Cahours and Balard having demonstrated that the oil of the potato is a compound isomorphous with alcohol, it became an object of interest to ascertain whether a series of ethers analogous to vinous ethers, as existing in the ethyle series, could be formed in the amyle series. In the latter, the bisulphuret and the sulphocyanuret were wanting. M. Ossian Henry, jun., in pursuing these researches, has arrived at the following results:—

Bisulphuret of Amyle.—M. Henry obtained this compound by the distillation of equal volumes of crystallized sulpho-amylate of potash, and concentrated bisulphuret of potassium; the result is water mixed with a yellowish oily liquid, lighter than water, emitting a strong penetrating odour. This latter is the bisulphuret of amyle. Its density at a temperature of 65° to 68° F. is 0.918. Burnt with oxide of copper, the following were the mean results of several analyses:—

		Theoretical constitution.		
Carbon .	58.90	C^{10} .	60 .	58.3
Hydrogen	10.43	H^{11} .	11 .	10.6
Sulphur .	30.67	S^2 .	32 .	31.1?
			103	100.0

Sulphocyanuret of Amyle.—This compound is obtained by the distillation of sulphoamylate of potash and the sulphocyanuret of potassium; in appearance, colour, and odour, it resembles the preceding, except that its odour is less pungent and alliaceous: density at 65° F. is 0.905. Analysed with oxide of copper, the elements were in these proportions:—

Carbon	56.86
Hydrogen	8.80

Theoretical constitution.

C^{12} . . .	72 . .	55.8
H^{11} . . .	11 . .	8.5
N . . .	14 . .	10.9
S^2 . . .	32 . .	24.8?
	129	100.0

M. Henry publishes these researches on these two new bodies merely to assert his claim to their discovery, proposing to follow them up by more complete investigations into their composition and reactions.—*Journal de Pharmacie et de Chimie.*

x

GANGLIONS AND THEIR TREATMENT.

These are either partial sprains, the fibrous and synovial sheath being torn, or these sheaths are attenuated and distended with albuminous secretion. A dense tumor, situated on a tendon, semi-transparent, and sometimes compressible, and varying in size from a pea to an egg, characterizes them. They are generally formed on the back of the wrist, or upper aspect of the foot, and are oftener a disfiguration than an impediment. The treatment is to puncture with a couching needle or iris knife, and carry this across, in two or more points, through the cyst, but not the skin; then to withdraw the instrument, squeeze the albuminous contents into the contiguous cellular tissue, and apply a compress with a bandage. Where the cysts are laid open, violent inflammation follows; and this continuing along the sheath of the tendon, becomes extensive, and often serious. Hence they should never be excised. Other modes of treatment have been recommended, but these it were superfluous to mention.—*Lizars' Practical Surgery.*

BOOKS & PERIODICALS RECEIVED

DURING THE WEEK.

(The List will be given in our next No.)

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 29·49
" " " Thermometer[a] ...... 54·9
Self-registering do.[b] .... Max. 92·3 Min. 38·

[a] From 12 observations daily. [b] Sun.

Rain, in inches, ·67.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 5°.9 *above* the mean of the month!

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, May 19.

Births.		Deaths.		*Av. of 5 Spr.*	
Males....	709	Males....	511	Males....	494
Females..	689	Females..	522	Females..	469
	1398		1033		963

CAUSES OF DEATH.		*Av. of 5 Spr.*
ALL CAUSES	1033	963
SPECIFIED CAUSES	1022	959
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*	236	198
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	49	48
3. Brain, Spinal Marrow, Nerves, and Senses	123	123
4. Heart and Bloodvessels	40	39
5. Lungs, and other Organs of Respiration	169	131
6. Stomach, Liver, and other Organs of Digestion	58	62
7. Diseases of the Kidneys, &c.	11	11
8. Childbirth, Diseases of the Uterus, &c.	9	8
9. Rheumatism, Diseases of the Bones, Joints, &c.	8	8
10. Skin	0	1
11. Old Age	43	50
12. Sudden deaths	10	11
13. Violence, Privation, Cold, &c.	34	33

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	6	Convulsions	37
Measles	32	Bronchitis	54
Scarlatina	35	Pneumonia	86
Hooping-cough	67	Phthisis	133
Diarrhœa	15	Dis. of Lungs, &c.	9
Cholera	1	Teething	9
Typhus	42		
Dropsy	17	Dis. of Stomach, &c.	7
		„ Liver, &c.	15
Hydrocephalus	27		
Apoplexy	19	Childbirth	6
Paralysis	30	Uterus	3

REMARKS.—The total number of deaths was 70 above the weekly spring average. Hooping-cough and measles are more fatal than they usually are at this season of the year.

NOTICES TO CORRESPONDENTS.

Notice.—In order to prevent delay in the insertion, it is particularly requested that all letters enclosing Advertisements be marked on the outside "*Advertisement.*"

The facts connected with the case of Mr. Tatham, Huddersfield, shall receive our attention.

Dr. M. W. Taylor's (Penrith) case will be inserted in the following number.

Mr. Lonsdale's note has reached us. The proposed alteration will be quite satisfactory.

The Reports of the Newcastle Pathological and South London Societies next week.

RECEIVED.—Dr. Turnbull.—Dr. Montgomery.—The Manchester Guardian.—The Preston Guardian.

THE GENERAL INDEX.

We insert the following Notes regarding the General Index. Our subscribers will remember that *Nunc aut nunquam* is the motto which we are compelled to adopt.

SIR,—In the leading article in a late number, taking up the expressions used by a correspondent, you assume that the proposed Index to the first 40 Volumes of the GAZETTE, will be useful only to the possessors of the early volumes: now, though these gentlemen will undoubtedly be much benefited by an Index to the volumes in question, an equal amount of advantage will be gained by those who have, at various times, and are, even now, only just commencing, to preserve your GAZETTE in their libraries.

A great deal of valuable information relative to diseases of all kinds—common as well as uncommon—is lost, because the observer is not aware that communications on the same subject have been previously made.

Some of the early purchasers of the GAZETTE may remember the existence of former papers, but the younger members of the profession must necessarily be continually at a loss to know what cases are on record, and what observations have been made on them, unless there is an Index to which they can refer.

It does appear, therefore, to me that all classes of the profession, young and old, will be equally benefited by the publication of an Index, *and* I sincerely trust that the next two months will bring a large influx of names, and warrant the commencement of the undertaking.

A few years ago I made a private index to a large number of volumes of Transactions of different Medical Societies, and assure you that its possession amply repays me for the time I bestowed upon it.—I am, sir,

Your obedient servant,
S. WM. J. MERRIMAN.

34, Brook Street, Grosvenor Square,
30th April, 1849.

SIR,—I beg my name may be added to the List of Subscribers to the Index to the MEDICAL GAZETTE, and regret not having sent it before.

This neglect, as to sending names, probably arises from the cause noticed in the GAZETTE of April 27th, that those who wish to have the Index, conclude they may be able to purchase it when it is published. I am glad you have suggested that such a notion, if general, must be fatal to its publication.—I am, sir,

Your obedient servant,
J. B. ESTLIN.

Bristol, May 17th, 1849.

ERRATUM: *Dr. Todd's Lecture.*—Last No. page 845, col. 2, line 17, for "tightly," read "*lightly*."

THE GENERAL INDEX.

We have to announce to our Subscribers that a GENERAL INDEX to the *first* 40 *Volumes* of the LONDON MEDICAL GAZETTE will, it is calculated, form a large Volume of about 700 pages. The cost of the INDEX VOLUME, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. WILSON AND OGILVY, 57, Skinner Street, will receive the Names of Subscribers.

Lectures.

CLINICAL LECTURE ON FRACTURE OF THE BASE OF THE SKULL.

By John Adams, Esq.
Surgeon to the London Hospital.

Gentlemen,—I have the notes of two cases of fracture of the base of the skull, lately admitted, with the dissection of the cases, and I therefore avail myself of this opportunity to make a few observations to you on this important subject. The great frequency of these cases justifies me in saying that they are highly important, and the signs by which they are to be recognised during life are so obscure, that I think it unnecessary to apologize for requesting your particular attention to the subject.

In reference to the frequency of the occurrence, I may state that within a few weeks at least four cases have been brought to the hospital, and to show their fatality, I need only observe, that out of eighty-five cases of fractured skull examined at this hospital after death, in a comparatively limited period, fifty-two were found to be fractures of the base alone; nine of the vertex alone, and twenty-four of both base and vertex: so that in a very large proportion of fatal fractures of the cranium the base is found to be implicated. It is impossible to say what number of fractures of the base have been cured, because, as I shall presently show you, the signs by which the accident can be recognised during life are very obscure, and, although many cases of severe injury of the skull are presumed to be of this description, yet it is very difficult to speak positively on this subject. The fatality attending these accidents obviously arises from the enormous amount of injury inflicted on the brain by the violence necessary to produce fracture of the base of the skull. Fractures of the base are said to come under that class of fractures supposed to arise by what is termed *contre-coup*, but I very much doubt whether they strictly belong to this category, at least in the generality of instances. There are four varieties of fracture by *contre-coup*: by this term we understand a fracture occurring at one part of the cranium, when the blow producing the fracture has been received at another: it has been supposed that the very shape of the cranium favours the transmission of injury from one part to another; but it is very questionable, as I shall show you presently, whether the accident is so common as has been imagined, and whether many of these fractures are not the result of direct violence rather than of *contre-coup*. The four varieties of counter fracture are these: 1st, where a bone being struck at one part, a fracture occurs at a distant part of the same bone; 2nd, where one bone being struck, an adjacent bone becomes fractured; 3rd, where one side of the cranium receiving a blow, fracture occurs at a part diametrically opposite; 4th, where the inner table of a bone is broken, the outer remaining entire.

Now let us examine this subject in regard to fractures of the base of the skull. A man falls from a height, and pitches on the vertex of his skull, and the base of the cranium is broken: is this a fracture by *contre-coup?* I do not think so; for you must remember that in this case, although the fall is upon the top of the skull, yet the whole weight of the body is transmitted by the vertebral column to the base of the skull, and we are not surprised that fracture takes place; but here there is direct application of force: so in other cases, as where a man is struck on one side of his head, and the head is driven forcibly against a solid body, fracture occurs at the part coming in contact with the foreign body, and not at the seat of the original blow. I mention these two cases to show you how they admit of a different explanation when carefully examined. Many surgeons altogether discard the idea of practice by *contre-coup:* thus Morgagni says—"that, if by counter fissure was meant a breach in that part of the cranium which is diametrically opposite to the part wounded or bruised, there could be none of that difficulty, which they all allow, of finding, or that frequent disappointment in not finding it at all, since an inquiry into such opposite part must always have led to the discovery." Mr. Guthrie has collected the observations of the old writers in surgery on this subject, and comes to a very similar conclusion. But of the occasional occurrence of fracture by *contre-coup* no doubt can be entertained: a case of fracture in the middle of the orbitar plate of the frontal bone, without any mark indicating the extension of fracture to this part, occurred at this hospital about ten years ago, and which fairly represents the form of accident I am now considering. I shall now relate two cases of fractured base of the skull, and offer you a few observations on them.

(Case *reported by* Mr. Reynolds.)

Patrick Hurley, æt. 32, was brought to the London Hospital on the 18th of April, having fallen down a ship's hold, and pitched on his left shoulder and side of the head: he was taken up insensible, but became partly conscious after his admission: there was bleeding from the left ear, and a fluctuating tumor below the zygoma; no fracture could be felt: after remaining quiet for half an hour he became completely insensible, and had a violent attack of general convulsions; his breathing was stertorous; his pulse only fifty in the minute. Some camphor mixture and æther were got down, and after two doses of the medicine, at intervals of twenty minutes, he became partly conscious, and described himself as being quite well. He was now ordered a spirit lotion to the head, a dose of Calomel and Jalap, and Calomel gr. iii. sextis horis. On the 19th the bleeding from the ear continued; he complained of pain in his head; his skin was cool, and his pulse ranged from 50 to 60.

April 20th.—The bleeding from his ear continues; his head is not so painful; his gums are slightly affected with the mercury: he is ordered V. S. ad ℥viii.; Haustus Domest. ʒiss.; and Calomel, iij. nocte maneque. After the bleeding the pulse became quicker and slightly intermitted, and he expressed himself as feeling ill all over.

21st.—Very restless; almost unconscious; the bowels are freely open: the restlessness increased towards evening, after which he became gradually more quiet; his pulse is seventy in the minute, and very small: it became gradually weaker, his respiration became laborious and puffing, and he died at night.

Post-mortem examination.—A fracture was found extending through the left temporal bone; it passed directly across the petrous portion in one direction, and in another to the lower part of the foramen magnum, and commencing again on the opposite side of the foramen, it extended through the occipital bone to the vertex. The state of the brain is not mentioned. The membrana tympani was lacerated.

(CASE II. *reported by* MR. SKIPTON.)

May 4th.—Joseph Bradley, a powerful young man, a boiler maker, was admitted into the London Hospital in the morning, having received a blow on the head in a quarrel, by which he was knocked down: he fell six or eight feet, and his head struck against a hard body; he was taken up in a partially insensible condition; and was brought to the hospital in that state; his pulse being ninety-six, full and hard: very soon after his admission he became violently convulsed—the eyes half open and turned upwards, pupils permanently dilated: the limbs were thrown about in all directions; both sides of the body equally affected, and the muscles of his face were in violent action; his breathing was stertorous, and perspiration profuse. The head was shaved, and a freezing mixture applied: a slight laceration, with considerable contusion, was found at the posterior part of the head, on the right side, behind the mastoid process of the temporal bone. He was bled to twenty ounces, and took two drops of croton oil. Mr. Adams made an incision into the contused scalp, commencing at the original laceration, and extending downwards; and finding a fracture, he removed a piece of bone with the trephine. Nothing, however, abnormal was discovered about the dura mater, except, perhaps, that it seemed more than usually tense. The convulsions continually returned, and evidently became less violent, and he died exhausted, about an hour after the operation. It should have been remarked that the arteries of the scalp poured out a dark blood on incision.

Post-mortem.—On reflecting the scalp previous to removing the calvarium, an extensive effusion of blood was found on the posterior and lateral part of the right side: on the removal of the calvarium, a small, thin coagulum was found on the dura mater. The arachnoid cavity contained half an ounce of bloody serum; the whole surface of the brain was very vascular, the veins of the pia mater between the convolutions, especially on the *left side*, were exceedingly distended: on the same side, also, the under part of the anterior and middle lobes were contused and lacerated. The whole brain was softer and more vascular than normal; the ventricles contained more than half an ounce of bloody serum, and on removing the brain a large quantity of a similar fluid was found at the base. A fracture was discovered extending through the groove of the lateral sinus in the temporal bone upwards to the distance of about two inches, and downwards to the foramen magnum, the posterior and right margin of which was detached by fracture.

These two cases fairly represent the conditions frequently present in fractures of the base of the skull, either as to the mode of occurrence, the peculiarity of the symptoms, or the result. Placing out of our consideration for the moment the state of the brain, let us see what are the pathognomonic signs of fracture of the base of the skull? Hæmorrhage from the ear is generally ranked as a symptom of fractured base: this may arise from a variety of sources—thus, it may depend on rupture of the membrana tympani, as in the first case just related; it may depend on rupture of the lateral sinus, or of the carotid artery, as when an extensive fracture traverses the canal, lodging this vessel: in either of the two latter instances the hæmorrhage would be so profuse as to leave no doubt as to the nature of the injury. But hæmorrhage from the ear is, in my opinion, not pathognomonic of this accident: it is so commonly found in slight cases of injury to the head, and in cases which occur without any untoward symptoms, and many such cases are brought to this hospital, that I feel justified in discarding it as a sign wholly to be relied on. Now, if in a case of injured head, hæmorrhage from the ear has taken place, and the injury has been accompanied or succeeded by paralysis of the portio dura, then I should be disposed to regard these signs collectively as indicative of a fractured base; but separately and singly, although it is an important indication, I do not rely upon it as conclusive of the existence of such an accident. Take paralysis of a cerebral nerve: I believe that in many cases permanent or long continued paralysis of parts supplied by any nerve passing out of the base of the skull will afford presumptive, though not positive, evidence of the existence of fractured base; although you must understand that this may result from injury to the brain or root of the nerve irrespective of fracture. There is a case in the hospital at the present time, which I will read to you on some future occasion, bearing on this subject, in which hæmorrhage from the left ear has been succeeded by paralysis of the corresponding portio dura, and in which I do not think there can be much doubt as to the existence of fractured base. I remember, also, another instance, admitted some years ago under the care of another surgeon, of a man who, after severe injury of the head, became the subject of paralysis of the muscles of deglutition, and in whom, from the history of the case, I doubt not that fractured base had existed, involving the lingual, pneumogastric, and glosso-pharyngeal nerves as they passed out through their respective foramina.

Although, therefore, hæmorrhage from the ear and paralysis of nerves passing out of the base of the skull are presumptive signs of fractured base, yet they are not positive signs of this accident; and, indeed, I know only of one symptom which is strictly pathognomonic of the injury, and that is a free discharge of serum from the ear after a severe injury of the skull. This symptom, however, comes on, not immediately, but on the second or third day after the accident. I remember a case some years ago in this hospital, of a man in whom a serous fluid escaped from the ear in such quantities as to soak through the pillow, and to require repeated changes of linen. A similar case is recorded in the tenth volume of the MEDICAL GAZETTE, where the patient lost between four and five ounces of a similar fluid in one night; both these cases did well. In the Mémoires de la Société de Chirurgie de Paris, there is an article on this subject by M. Robert, who, from numerous dissections, has distinctly traced this phenomenon to a fracture extending across the petrous portion of the temporal bone, and a direct opening from this into the arachnoid cavity.

I have nothing to say to-day on the treatment of fractured base, but shall pass on to consider the second case in reference to the operation of trephining. Let me, however, first direct your observation to the condition of the brain in this case: you will remark that the laceration of that organ took place on the side diametrically opposite to the seat of fracture; and this you will often find to be the case. You will also remark that the man suffered severe convulsions, which continued to the time of his death. To what are we to attribute the convulsions? Certainly not to pressure on the brain, although in some cases of pressure convulsions are present; and you will find a case related by Pott, where he could induce convulsions at will, by simply pressing on a part of the skull in which caries had destroyed the osseous covering to the dura mater. Most surgeons regard convulsions after injury as the consequences of laceration rather than of compression; and my own experience leads me to a similar conclusion. In cases of simple concussion, convulsions are occasionally present, but this is by no means common.

The opinion prevails that convulsions occur on one side of the body, and paralysis on the other, or that convulsions are found to take place on the side corresponding to that of the laceration; whereas it is of course understood that paralysis almost invariably happens on the side opposite the seat of pressure. How is this phenomenon to be explained? I think the explanation is this—namely, the convulsions would attack the body generally, but that one side being paralysed, that side is not convulsed. If this be not the true explanation, I confess I cannot explain it.

Convulsions are certainly to be regarded as the result of cerebral irritation rather than of compression, and this irritation is frequently—but certainly not always—dependent on laceration of the delicate fibres of the brain: it is a symptom, however, occasionally absent even in extensive laceration of the brain. Now in the case under consideration it will be seen that the brain is lacerated on the side opposite the seat of fracture; and this a fact of the highest interest and importance. It is interesting, because it shows that, although counter-fracture is uncommon, yet that the brain may receive a counter-laceration: and this is very common indeed. It is important, because in obscure cases of injury, unless the signs of cerebral compression, as indicated by paralysis of the opposte side, were present, there would be little use in trephining, as laceration of the brain may be found in any situation distant from the seat of the original blow. Before performing the operation of the trephine, be satisfied of the seat of the compression, and your diagnosis must frequently depend on the paralysis, which you will find on the side opposite to the compressing force. It is not usual to trephine to relieve laceration; but in severe cases of injury to the brain I do not see how you can avoid it; as in such cases the lines of distinction between laceration and compression are by no means distinct; and you must give your patients the benefit of the doubt under such doubtful and dangerous circumstances.

In the case before us, I was induced at the suggestion of Mr. Edwards, the house-surgeon, to cut down over the seat of injury; and I had no hesitation in so doing, although we had both little hope that benefit would result, as the circumstances of the case were so desperate. A fracture was found, and I took out a piece of bone enclosing a portion of the fracture within the crown of the trephine. No clot was discovered beneath the fracture, but no harm could possibly result in the extreme condition of this patient, and we had the satisfaction of knowing that we had done every thing for him that surgery could suggest,—not that the operation is to be undertaken lightly, or without urgent necessity. I consider that we had ample justification in what we did from the urgency of the case, and from the doubt which always hangs over these extensive injuries of the cranium.

PHOSPHATE OF AMMONIA IN RHEUMATISM.

This remedy was fairly tried by Dr. Pepper in the spring of 1846. It was given in doses of from ten to thirty grains in acute and subacute rheumatic cases. It was not found to justify the theory of Dr. Buckler, of Baltimore, who believed it to have specific powers, by a chemical agency; but patients recovered under it, though not rapidly, so as to convince me that it might prove a useful adjuvant, and sometimes substitute for colchicum. Its alkaline composition and laxative action are sufficient to account for this. In 1847 one case at least occurred in which its use was followed by recovery, where the attack had resisted other plans of treatment. In some patients diarrhœa, and in others nausea, was produced; but generally it seemed a mild remedy. The vehicle preferred was aq. cinnamon.

The curative power of colchicum was found to be far from infallible. In some, aided by depletion, its effect was immediate; others were scarcely improved while taking it even for weeks.—*American Journal of Medical Sciences.*

Original Communications.

TWO CASES OF HYDROPHOBIA;

WITH REMARKS.

By C. Dawson, M.D.
Surgeon, 54th Regiment.

In giving an account of a disease so truly frightful, and so certainly fatal, and one of which we possess so little knowledge of any practical use, to record the most minute particulars which came under observation may ultimately lead to good. With this view I cannot, I believe, do better than transcribe literally, from the register, the unfortunate man's case. Having been with him during the whole of the night and the greater part of the following day, the notes in the register were taken at the bed-side of the patient, in the presence of such human suffering as I never before witnessed.

Case I.—Private John Lloyd, a Welsh shoemaker, æt. 28; service, five years; a powerful healthy man, of vigorous constitution, regular and sober habits; was admitted into hospital on the evening of the 5th November, and was almost immediately seen by Assistant-Surgeon Dr. Moorhead. He complained of sickness at the stomach, and of "a something in his breathing," as he called it. Said he had lost the power of his left hand, and complained of a prickling sensation in both arms, which he said rushed to the tips of his fingers. His arms and hands were rather cold; the lower extremities warm; pupils natural; pulse 96, of good strength; tongue moist; bowels regular; no pain. An ipecacuanha emetic was given, and subsequently an enema was ordered.

At 9 P.M., appears excited; constantly hawking and spitting. The enema acted freely. A draught of sulphuric ether and tincture of opium was given, and was swallowed with difficulty. A sinapism applied to the epigastric region.

11½ P.M.—On returning from the country, I saw him for the first time at half-past eleven. I found him lying quietly in bed; the skin and tongue natural; pulse 104, remarkably full. Complained of a "stuffing up" in his chest, and a prickling, occasionally stinging, sensation in his arms, shooting to his finger ends. The lungs and heart were examined and found healthy, and the throat natural, excepting the uvula, which was turned slightly on itself. On applying my hand to the pit of the stomach, he started suddenly, as if it gave him exquisite pain; but, on reapplying the hand, he allowed the whole epigastric region to be freely pressed, without evidencing any sign of pain whatever. He was bled to ℥xxviij.; the pulse rose in frequency, and fell to the ordinary strength. After lying quietly for a short time, he started suddenly up in bed as if about to vomit, violently cleared his throat, with great force spitting out some viscid saliva; he breathed in a gasping manner, then panted rapidly for some time. On recovering, he apologised for spitting on the floor, then lay down in bed, and appeared as calm and quiet as when I entered the ward. He answered distinctly, but with an import remarkably serious, all the questions I put to him. He said he was employed every day in the shoemaker's shop; that he was, as usual, at work during the forenoon. About noon he went to the canteen, ate three very small apples, and drank a small wineglass of Marsala, at the same time feeling as well as ever he did. At dinner time, however (one o'clock), he felt as if he could not eat any thing. He left his comrade at dinner, went to the canteen, asked for a bottle of ginger beer. When drinking it, he suddenly felt "a puffing of wind," as he described it, which obstructed his breath, and he could not possibly swallow. He had no dinner; went to parade (kit-inspection) in the afternoon. He got through the parade with much difficulty, and came to hospital a little before six o'clock.

12½ *noite.*—He now complained of cramps in the hands, which felt cold, and the fingers stiff. The lower extremities and body naturally warm; he complained of constriction and stuffing up in the upper, and pain in the lower, end of the sternum. The nature of the disease being now suspected, the sergeant was told aside to bring him a glass of water. A bath in the meantime was being prepared for him at his bed side. Bucket after bucket of water was emptied into it, without causing any apparent change in his manner or feeling. On the tumbler of water being handed to him, he drew back, saying "I cannot take it, it will suffocate me." He denied having been bitten by any animal, or wounded by any instrument, although there was observed on the point of the index finger a small triangular punctured wound, not recent, but open. He was placed in the warm bath; it appeared to increase his suffering. In fifteen minutes his feelings were such, that he called out vehemently he would be suffocated. He was instantly taken out. He perspired freely; the cramps left him, and never after returned.

2 A.M.—The paroxysms are increased both in frequency and severity, recurring every four or five minutes. He dreads the least current of air, and begs that the windows and doors may be closely shut. He complains of "a puffing of air" about his face, and obstruction to his breathing, as if a person was blowing a bellows into his chest; so he describes it. He frequently attempts to clear his throat, and spits out some viscid saliva in small masses. He was ordered a draught. After taking it in his hand, and making repeated attempts to carry it to his mouth, and as frequently turning his head with horror away, he at last seized hold of one of the attendants, carried the draught with a desperate effort to his mouth, swallowed it, at the same time springing to his feet in bed he stood up, his eyes fixed and staring, the angles of his mouth retracted, and he gasped as if suffocating. As the night advanced, the paroxysms became more severe and the suffering indescribable.

The report taken at 4 A.M. is as follows:—He suddenly starts up in bed with a scream, generally to the sitting posture, sometimes to his feet; he gasps violently for breath, the eyes fixed and protruded, the angles of the mouth retracted in an extraordinary degree, the teeth gnashing, and the face expressive of the deepest anguish and suffering,—his whole appearance truly appalling. After a few seconds he relaxes his features, calls out he will burst, says the wind stops his breath; calls on God to take him, saying "no mortal man ever suffered so much." The fit, he says, is always preceded by a feeling of puffing of wind in the face and in the chest, so as to stuff up his breath.

6 A.M.—There is a general tremor of the whole body, not visible, but perceptible to the touch. He is extremely sensitive, and has a great horror of the least current of air; even covering him with the bed-clothes, or moving them in any way, causes intolerable suffering, unless done with the greatest caution, so as to avoid agitating the air. A stranger entering the ward, or any sudden noise, causes suffering, and sometimes brings on a regular paroxysm. When the morning gun fired he sprang suddenly to his feet, and asked in an alarmed tone what it was. On being asked if he could take a draught, he said he would take any thing for relief. As soon as he took the glass in his hand he turned his head away from it; waited intently for some time; then with a sort of convulsive effort he carried it to his mouth,—when, swallowing it, he started wildly to his feet, shrieked and stared, the eyes projecting, the angles of the mouth forcibly retracted, and the expression is what one would expect to see in a man being strangled. The fits still continue to recur every few minutes. After a severe fit he will sometimes exclaim, "What can I do? I cannot die!"

Between seven and eight this morning he complained much of thirst, and asked for water, or something to drink. Some cold tea was brought, but he could not allow it to approach him; he turned his head with a sort of shudder from it. After repeated ineffectual trials, he said he thought he could take it through a reed. The tea was brought in another vessel wrapped in a cloth, and a reed attached. He took the reed in his hand, repeatedly tried to take it in his mouth, but as frequently turned, with a shudder, his head away; and at last gave it up, saying he could not possibly take it. As the thirst was urgent, and the temperature of the body good, a cold bath was ordered; he objected very much to it for some time, but when it was prepared he went into it. He remained in the bath thirty five minutes, during which he was comparatively easy and calm.

Noon.—From the hour he went into the bath until the present time, the paroxysms have not returned with any thing like the same degree of severity. The fits appeared to pass off in sobbing and sighing. Has not complained of thirst since the bath.

At half-past eleven o'clock he was seen by the principal medical officer, and ordered an antispasmodic draught, chiefly composed of musk. He swallowed it with difficulty, but without giving rise to the violent symptoms already described. He immediately retched severely. He was recommended to drink warm water. He repeatedly swallowed some mouthfuls of water, although with some struggle, yet with comparative ease. On each occasion he vomited, or rather retched violently, ejecting a little mucus with the fluid. The efforts to swallow began to bring on the paroxysms rapidly, and with something like their former severity. He was ordered to desist, as he persevered under the impression that there was some foreign body lodged in his stomach. This idea entered his head from some conversation he overheard, and which he caught up with new hope.

3 o'clock.—At a quarter past twelve he was again put into a cold bath, which he on this occasion willingly acceded to, on account of the relief he previously experienced. The bath appeared to soothe him; he remained in it an hour, when a severe fit came on, and he was taken out. After he had been in bed a short time, he said he felt more himself than he had done since he came to the hospital, and begged that he might not be given up, as he was willing to try anything that might do him good.

6 P.M.—From the time he was put to bed after the bath until half-past five o'clock, there has been a remission of the more violent symptoms. The intervals between the paroxysms are much greater, and the fits are not so severe as to oblige him to sit up in bed; they appear to pass off in deep sighing. When visited about two o'clock he talked calmly and collectedly about his friends and his affairs; said he felt better, but he did not think he had long to live; requested to see his comrade, who was immediately sent for; disposed of his watch, ring, &c., and asked me to do him a favour by sending a few lines to his father, to let him know he was dead. The reflections which rose within him when giving me his father's address

brought on a fit; he gasped for breath, and sighed convulsively.

8 P.M.—Between five and six o'clock the paroxysms began to return every ten or fifteen minutes, and in the course of an hour they assumed a severe character. He sat up in bed; complained of air blowing into his mouth and suffocating him; he drew up his shoulders, gasped violently for breath, and gnashed his teeth. Every muscle of the body appeared stretched to rigidity. In the interval he talked much; and he was now for the first time remarked to be occasionally incoherent.

In the course of the evening the paroxysms increased in frequency, and succeeded each other rapidly. He struggled gaspingly for breath, until at last, exhausted, he rolled on his side from the foot of his bed where he sat. In this posture, with his head bent forcibly towards the floor, he retched violently and with convulsive effort, as if to clear his throat. In a short time the physical powers were completely exhausted; he was laid into bed, and, lying on his right side, he remained in this posture, breathing heavily, and occasionally with a deep sigh, until he expired, at half-past seven o'clock, twenty six hours after his admission into the hospital, and thirty-six hours after the numbness was felt in the left arm and hand, the very first symptom of the disease experienced.

Sectio cadaveris, forty hours after death.—The lower extremities rigid; the upper flaccid; the body plump and muscular. The eyes unusually bright; pupils dilated. The neck puffed up fully one fourth larger than natural; a crackling sound elicited by pressure. The emphysema extended down the sternum and under the clavicles, as far as the space between the second and third ribs. The anterior surface of the scrotum was of a deep rose-red colour; the posterior surface was natural in colour. On the chest being opened, the lungs did not collapse. The tongue, pharynx, larynx, and œsophagus, were removed with the lungs, and presented the following appearances:—

Tongue.—The sebaceous glands at its base unusually large.

Œsophagus natural throughout.

Pharynx and larynx.—The mucous membrane presented a flesh-red colour, uniform throughout.

The trachea and bronchial tubes contained some thin venous-coloured blood. The mucous membrane uniformly smooth, without abrasion, of a dark flesh-colour, excepting where it covered the cartilaginous rings; there it looked light, approaching to nature. No distinct blood-vessels visible.

The *lungs* were remarkably dark, and highly congested with venous blood, more especially the left. Both elicited crepitation on pressure, and the parenchymatous tissue looked healthy. The serous membrane lining the walls of the thorax presented the same congested appearance precisely as the mucous membrane of the trachea. The internal parietes of the chest were of a dark flesh-colour, excepting along the course of the ribs. The heart was very pale, and remarkably flaccid; the walls of all the cavities unusually dark.

The stomach pale, destitute of rugæ; its blood-vessels empty, and the blue lines usually seen were not apparent.

Large and small intestines appeared perfectly healthy.

The liver darker than usual. The portal system congested. The congestion, however, did not extend to the mesentery or bowels. The kidneys also congested with venous blood.

The cardiac plexus and splanchnic nerves presented a pink, or pale flesh colour. The pneumogastric nerve natural.

The brain was found natural in colour and consistence throughout.

The theca vertebralis contained some reddish coloured fluid, and the spinal marrow varied in consistence; at some points it was as soft as jelly.

Blood-vessels. — The arteries were generally empty. The blood which escaped from the veins was dark and grumous, the colour and consistence of hot pitch. After escaping from the veins, the surface was gradually but soon covered over with small amber-coloured points, precisely the appearance of oil on the surface. It was at first supposed to be oil from our hands, which had been lubricated. After carefully washing our hands, Assistant-Surgeon Dr. Moorhead and I opened veins in different parts of the body—the femoral, brachial, &c. The blood, on escaping, gradually assumed the same appearance, and the surface of the blood became covered over with the amber-coloured points.

Treatment. — The only remedies

which appeared to exercise any soothing influence were cold baths and draughts of the Acid. Hydrocy. Dil. gtt. vj., of which he took in all three. The first draught appeared to have more effect than those subsequently given.

This unfortunate man having been, during the nine months preceding his admission into hospital, employed at his trade in the shoemaker's shop, he was daily under the observation of the sergeant in charge; and his feelings and actions being well known to his fellow workmen, his history prior to his fatal illness is well authenticated, and can be implicitly relied on. Sergeant M'Andrew states that, since Lloyd was employed in the shoemaker's shop to the day he was admitted into hospital, he appeared to be in good health and spirits; that in the course of the forenoon of that day he heard him complain of numbness and partial loss of power of the left arm and hand; he remarked to the sergeant that he was afraid he would not be able to handle his musket at the afternoon parade. The sergeant also states, and likewise the men employed in the shop, that in June, Lloyd and M'Intyre, a fellow workman, were both bitten by a cur puppy, aged two months, which belonged to the men in the shop. They all agree in stating that the puppy had no sign of being ill at the time, nor until ten days after, when it became restless, running from one end of the shop to the other; lying down for an instant, then suddenly getting up again. Its face appeared wet, and its eyes watery, and it refused to take any food. It was drowned the following day.

A bitch belonging to the Quartermaster was killed by the men in May, on account of being considered rabid. She was seen by the Adjutant running about the barrack square, the muzzle quite wet, the mouth open, and snapping at whatever came in her way. This bitch generally lived in the shoemaker's shop.

Case II.—On the 30th of the same month (November), I was requested to visit, in consultation with Dr. Vassallo, Physician to the Malta Police, Francesco Napolitano, æt. 16 years, a Maltese lad of delicate conformation. We found him in his day clothes, lying on his bed kicking with his legs, and throwing his arms about as if in a violent passion; talking with great vehemence, and with a shrieking voice, frequently spitting, and occasionally grasping his throat with his hand: constantly calling out "aima," "aima!" a term used by Maltese when suffering severe pain. He was surrounded by his relations. Although evidently in possession of his senses, he would pay not the slightest attention to their entreaties or advice, and was quite ungovernable. We wished him to be moved to a part of the bed where he could be more distinctly seen; he resisted, and said he could not bear the light. He was so violent and obstinate that it was vain to attempt to do anything for him further than keep him on the bed. He would sometimes call for coffee; as soon as he saw it he would order it away, and every one out of the room, saying he wished to be left alone,—they would kill him. His expression was wild and alarmed, the action of the heart was strong, the skin moderately warm. He appeared to dread the least current of air, and he could not bear any one to enter the room—kept a watchful eye on the door. He continued much in the state here described until the following morning about 5 o'clock, when a decided remission of the symptoms took place. He vomited a considerable quantity of dark fluid during the night. When I saw him at 9 A.M. he was calm and composed, quite sensible and obedient; he sipped and swallowed coffee without difficulty, but as the spoon approached his mouth he at first drew back with a sort of shudder, and the muscles of the neck were observed to contract at the same time spasmodically. He said he was quite free from pain: he occasionally sighed, and the muscles of his face contracted slightly, giving him the appearance of smiling, which was no doubt involuntary action. The expression was natural and pleasing, and I found the family happy in a false idea that he had got over the disease. The body was warm, the hands cold, the pulse rapid, and so feeble as not to be numbered. The heart's action was strong, and numbered 148 per minute. The cicatrix was of a bright rose-red colour, and surrounded by slight tumefaction. The remission continued uninterrupted: he gradually sank, and died without a struggle at 2 P.M.—thirty hours after the hydrophobic symptoms appeared.

On the 15th August this Maltese lad was bathing in the Pieta harbour close by the public road. A large mongrel dog, naturally fierce, but quietly following his master, who at the time was passing by, suddenly leaped into the water, swam hurriedly to the lad, and attacked him so fiercely that he would not desist until forcibly removed by his master. The lad was bitten in various places, in the back, the right arm, side, and leg: but the head was most injured. The occiput was severely lacerated: the wounds, however, healed kindly. Slight suppuration took place in the lacerated wound of the scalp. The lad was in uninterrupted good health until 18th November, when he felt some uneasiness in the back part of his head.

On 22nd Nov. he was out and got wet: he returned home complaining of pain in the cicatrix of the wound of the occiput. The following day he said he felt a tingling pain in the left ear and in the neck.

In a few days, aversion to light, and to any current of air, was remarked: he was seen to cover his face with the cap to avoid both.

On 29th, pain in the left shoulder, around the articulata of the lower jaw, and numbness of the left arm, supervened; and on the following morning the hydrophobic symptoms were fully developed.

The stage of crudescence in this case lasted twelve days: in the soldier of the 54th regiment certainly not as many hours.

It is worthy of remark, that *in neither case did the dog appear ill or altered in manner at the time the wound was inflicted.* The puppy in barracks had been the companion of a rabid bitch, which was on that account destroyed. The puppy sickened *ten days* after it bit Lloyd, and was drowned, under the apprehension that it was going mad.

The dog which so fiercely attacked the Maltese lad (excepting this act) showed no change in appearance or in his habits before or after the occurrence. He was destroyed the following day by poison: he ate the food in which it was mixed with avidity. It is remarkable that four well-authenticated cases of hydrophobia occurred in Malta during 1847; while only two cases had appeared during the preceding 47 years. One, a woman about 60 years of age, was brought to the Civil Hospital, Valetta, from a country village, in 1805. She was seen by Dr. Franklin, Inspector General, Dr. Garagna, and other Maltese physicians.

The other case, likewise that of a woman, occurred in 1805. She was seen by Dr. Greeves, superintendent of quarantine, and by Dr. Garagna.

CONTRIBUTIONS
TO THE
PATHOLOGY OF THE SKIN.

By T. H. Burgess, M.D.
Translator of Cazenave's Manual of Diseases of the Skin.

[Continued from page 761.]

No. V.

VESICULAR ERUPTIONS.

Eczema of the Scalp in Children, and Eczema of the Legs in Adults.

There are two varieties of eczema which practitioners are not fond of meeting with—namely, eczema capitis of infants, and eczema of the lower extremities in advanced life. They are both exceedingly rebellious forms of eruptive disease, too often defying the best and most approved methods of treatment, and they are, above all other lesions of the skin, those in which a cure may be worse than the disease; for the sudden suppression of the serous or sero-purulent discharge is sometimes followed by a fatal termination. Nature would seem to have guarded against this result by the intractable character of the malady, and the "scald head" of children, like the "running sores" of the legs of mature age, may often be looked upon rather in the light of safety valves to the constitution, than abnormal conditions prejudicial to health. Parents and nurses, however, are generally reluctant to adopt this view, and the practitioner is embarrassed by the impatient importunity of one or other, or both, who are willing to run all risks so that they can get rid of the "disagreeable complaint." A case in point occurred to me within the last month.

A lady applied to me for advice respecting her child, a little girl, ten months old, of a robust frame, and apparently enjoying good health, although the scalp was the seat of the *moist* form of eczema, extensively diffused over the head, and accompanied by a copious discharge of serosity.

The child's mother was exceedingly anxious that the discharge should be arrested as speedily as possible, because she had a strong repugnance to suckle the baby since the eruption broke out. The little patient was teething at the time. There was considerable irritation about the gums, which were red and swollen, and all the teeth that had appeared were cut with difficulty. I pointed out to the mother the danger of suddenly suppressing a discharge that was so fully established, and which was evidently symptomatic of internal disorder or irritation, most probably from teething. She still persisted, however, in her original view, and as she was unwilling to transfer the child to another nurse, she strongly urged that the serous effusion should be stopped if it were possible. The gums were freely lanced, the bowels gently acted upon by the hydrargyrum cum cretâ, strict attention to cleanliness, particularly with reference to the scalp, was enjoined, and a mild alkaline lotion, to begin with, prescribed.

In the course of three days, these remedies not acting promptly enough for the mother's wishes, she asked if I could not give her a "*stronger healing lotion*, because a female friend had told her she could give her one that would *dry up* the running in a short time." I declined. On the morning of the third day following, I was suddenly called to see the child, which was in strong convulsions, and the scalp in a state of violent erysipelatous inflammation. I now learned that the remedies I prescribed had been suspended, and in their stead the "specific" referred to by the mother was employed. The reader will not be surprised at the result, when he is informed that it was a lotion, the active ingredients of which were corrosive sublimate and lunar caustic. Although the little patient eventually recovered, its life was in imminent danger for some time; and it was only when the eruption reappeared, that the dangerous symptoms subsided. I give this case as an example of the extreme caution that is necessary in prematurely interfering with the cutaneous discharge in infantile eruptions: for sometimes the practitioner may be induced, by the continued *empressement* of the mother, and his own anxiety to terminate a tedious case, to have recourse to more energetic remedies than are judicious.

There is no variety of scalp eruption which the practititioner meets with more frequently, or which gives him more trouble and vexation, than eczema, when it passes into the chronic state. It is, moreover, often confounded with impetigo of the same region, in consequence of pustules being mingled with the vesicles, and caused by the constant irritation of the serosity upon the scalp. The inflammation is not confined to the skin, it extends to the adjacent tissues, involving the subcutaneous cellular structure, in which abscesses are formed, and also the lymphatic glands of the neck and the parotid. At the same time the hair is matted together in tufts by the serous exudation, which emits a disagreeable sour or acid smell. The eruption may thus continue for some months without much diminution in the serous discharge; or, on the contrary, the exudation may begin to decline after a certain period of short duration. It then becomes thick, forms laminæ, incrustations, and small, thin, soft, yellow, slightly adherent scabs, the bases of which are dry, but inflamed: the disease seems on the point of disappearing, when, without any apparent cause, the inflammation returns with increased force. The skin becomes red again; new crops of vesicles are evolved, which soon give way, discharge their contents, and thus the eruption pursues the same course as before; or else it may pass into the *dry* form, totally differing in its physical characters from the preceding variety: which, however, I shall not describe just now.

It is the chronic varieties of eczema capitis that are so obstinate and rebellious; and upon the treatment of these I propose now to offer a few brief remarks.

In commencing the treatment of diseases of the scalp in children, it is always to be borne in mind that the *weak* and the *strong* of constitution are not subject to the same form of eruption, and consequently the treatment must vary according to the particular case present; for example, certain eruptions select healthy robust children, as impetigo eczematosa, and impetigo sparsa; whilst others, as favus and impetigo granulata, almost invariably occur in scrofulous, ill-fed, and neglected children; the former are developed most commonly before the third year, whereas the latter are seldom seen until about the period of the second dentition. The indiscriminate use of stimulants in the inflammatory eruptions of the scalp cannot be too strongly condemned; for, as Dr. Neligan, of Dublin,* justly observes, most practitioners employ the most powerful stimulants to the scalp in every form and in every stage of the disease. Stimulating applications do unquestionably, in some instances, cure these diseases when they become very chronic, and have, so to say, nearly worn themselves out; but the manner in which they do so is by exciting a fresh inflammation in the scalp, by which a new action is produced sufficient to change the condition which previously existed there. They, however, more frequently fail, and the existing disease is then much aggravated from their use: it is, moreover, only in the very chronic stage that they ever do prove beneficial, as the employment of even the most mildly stimulating applications proves highly injurious in the inflammatory stages. Another circumstance worth bearing in mind is, never to shave the hair off the parts, but rather to cut it close with the razor-scissors, for by so doing the irritation which the razor always produces when applied to an inflamed or broken surface, will be altogether obviated—a preliminary matter of considerable importance as regards the subsequent treatment. As a general rule, greasy applications of all and every kind are bad in the treatment of eruptions of the scalp, and for this reason ointments should seldom or never be employed. All their alleged advantages may be as readily acquired by the more cleanly and less irritating form of lotion.

I am so convinced of the truth of this observation from considerable experience at the hospital of St.-Louis and elsewhere, and knowing the long-cherished partiality for unguents still very generally prevails, that I have taken the opportunity in a recent work on Diseases of the Skin of the Exposed Surfaces,* of directing attention to this point. It was only the other day that a very intelligent practitioner, and one of long standing in the profession, said to me, "you may depend upon it there is nothing like *citrine ointment* for scalp diseases." When asked if he recommended it for any particular eruption, or indiscriminately for all, occurring in that region, he unhesitatingly answered that "he found it more or less beneficial in *all*." While such vague views of the treatment of these complicated lesions prevail, we can scarcely wonder that they should so frequently find their way into the hands of the empiric, who seems to have a time-honoured interest in their management and cure.

As eczema is a constitutional and not a local affection, it is obvious that the treatment should be principally directed through the system generally to the seat of the disease. In the chronic form of the eruption this is especially the case; and here the first indication, after the usual measures of cleanliness have been adopted, is to restore the tone of the system by means of a course of mild tonics and alteratives. When circumstances are favourable, and the proper time arrives for arresting the discharge, it should be effected in as gentle a manner as possible, so as not to derange the internal organs; and for this purpose I prefer mild alkaline lotions of the carbonate or bicarbonate of potass, and the frequent use of the simple or emollient bath, in which the patient, unless very feeble, should remain at least one hour: the usual method of keeping the patient in twenty minutes or half an hour, being useless.

If there is an abundant serous exudation, and much smarting in the parts, half a drachm of sulphuric acid in a pint of barley-water will be found very useful. The patient should commence with small doses, and take a little cold water after each dose, until the stomach becomes accustomed to the acidulated drink. If the discharge continues undiminished, and the eruption does not appear to be affected by those remedies, we must have recourse to alteratives, as sarsaparilla and hydriodate of potash, to active purgatives, if the patient is strong, and to lotions of the nitrate of silver, or of the bichloride of mercury. If there is any inflammatory tendency in the parts, the application of a few leeches behind the ears will be necessary.

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* See Dublin Medical Journal, July 1848.

* Eruptions of the Face, Head, and Hands, with the latest improvements in their treatment.

Chronic eczema of the legs in adults, and especially when the patients are of a debilitated or broken-down constitution, are generally very difficult and unsatisfactory cases to deal with. The practitioner seldom sees the case until the disease is so fully established, and, as it were, engrafted on the limb, that the habitual condition of the parts seems to be that of subacute erysipelas, with puffiness of the ankles, and a swollen if not varicose state of the veins; all denoting a sluggish or impeded circulation in the extremity. This state of things not infrequently terminates in that form of indolent ulcer of the legs so familiar to practitioners, and so difficult of cure.

For cases of this description I have found the application of the vapours of sulphur and iodine, in combination, the most certain and effectual remedy, when assisted, during the interim of the applications, by bandaging the limb from the foot upwards.

My attention was directed several years ago, by Mr. Alfred Walker, to a preparation of sulphur and iodine, the vapour of which is an admirable local application in several cutaneous diseases. At that period I witnessed its marked benefit in many cases of chronic ulcer, under Mr. Walker's care. These remedies combined seem to possess healing properties which are not manifested when they are used separately. When employed judiciously, and in appropriate cases, they appear to alter the vitality of the morbid parts, and to induce a state of healthier action. If the eruption is indolent, they gently stimulate the diseased surface into greater activity; and by regulating the strength of the remedy, according to the nature of the case, and the object in view, the most salutary effects may often be derived from its use. I have seen cases of lepra of several years' standing, which had resisted every other treatment, cured in a very few months by the application of the vapour of sulphur and iodine. It is particularly applicable to squamous and tubercular diseases of the extremity, to chronic eczema, and ill-conditioned ulcers of long standing. It may be administered in this form—℞ Sulphuris, ʒiij.; Hyd. Sulph. rubri, ℈ij.; Iodinii, gr. x. M. fiant pulv. sex.

One of the powders to be used in the following manner three times a day. If the disease be seated on the limbs, a tin case, or even a common jar, which will answer as well, provided it be large enough to hold the limb, should be procured; a heated iron is to be placed at the bottom of this apparatus, with a grating above it to protect the foot or hand. One of the powders being placed on this heated iron, the limb is to be instantly put into the bath, the mouth of which should be covered over to prevent the vapour from escaping. The limb may be continued in the bath for from fifteen to twenty minutes, according to circumstances. In the course of a day or two the proportion of iodine may be increased; for example, thirty grains of iodine, and at a later period double the quantity, may be incorporated with an ounce and half of the flowers of sulphur, to be divided into twelve powders, and used in the same manner as the former. I do not mean to extol this agent as a specific for the cutaneous eruptions indicated above; nevertheless, from what I observed both in Mr. Walker's practice, with reference to ulcers, and in my own with regard to Skin Diseases, I think it is worthy the attention of practitioners, and that it will be found a very efficacious remedy.

12, Half-Moon Street, Piccadilly,
May 24, 1849.

HOT BATHING IN CHRONIC RHEUMATISM.

Many sufferers from chronic rheumatism, unmitigated by medicines, were entirely cured in the winter season by the daily use of a bath at 102° Fahr. During the summer terms, frequent and free cupping, dry or wet, to the *spine* was attended with great benefit, even when the pains were only in the limbs.—*American Journal of Medical Sciences*, January 1849.

DANGER ARISING FROM EXPOSURE TO THE SMOKE OF COAL.

By Michael W. Taylor, M.D. Edin.

On the morning of January 21, 1849, I was summoned to visit a family of five persons, who were taken ill under the following circumstances:—On the preceding night they had all retired to rest at 9 o'clock: at 4 A.M. the wife was awoke by her child (a girl of ten years of age), who was sleeping in the same room, being violently sick. On rising, she felt herself affected with great headache and giddiness, so that she could not maintain the erect position. The husband, on rising, experienced the same sensations, and had only time to advance into the next room, occupied by two young men, before he fell supine on the floor. Both these young men, on awaking, felt the same headache and overpowering sensations: one of them fell down insensible; and the other, with an effort, got down stairs to summon aid. This one felt better on reaching the open air. Violent headache, giddiness, and ringing in the ears, were present in all, which symptoms were much increased on raising the head from the pillow. In all, the pulse was frequent and rather feeble, and the face pale: all had great languor and prostration of strength, and in one the mind was much confused. Two were in a state of undefinable alarm and anxiety; two complained of severe griping in the bowels; another had vomited. In all, the tongues were very white and loaded. None of them appeared to have any suspicion of the cause of their illness. The windows and doors were thrown open. Two of the individuals were removed out of the house, and were quite well in the course of two hours. The three others could not be raised without producing faintness. In these the symptoms continued throughout the day, and one of them had a violent diarrhœa for three hours. All felt quite better before bed-time.

In the case of these individuals are manifested very evidently all the incipient symptoms of the deleterious action of the vapour of burning fuel. The day before the accident, the kitchen fire-place had smoked very much. On retiring to rest, the family had left the fire burning in a low state. The two sleeping apartments were small, and the fire-places were closed by boards, so that when the doors were shut, they were destitute of all means of ventilation. The flues from both led into the chimney from the kitchen fire-place below. The noxious vapour from the smoking coal being blown down the chimnies of the rooms in which the individuals were sleeping, was evidently the cause of the accident.

Several cases similar to the above have been recorded from time to time: one reported by Dr. John Gairdner is precisely parallel. A coal fire had been kept up during the night, and the smoke produced by it had passed down another chimney into the bedroom, the door of which was, however, open. The individuals, six in number, awoke with giddiness, a relûctance to rise, stupefaction of mind, and a desire to return to sleep. When thoroughly roused, headache succeeded, and vomiting. They gradually recovered by the following day.*

It requires strong facts and a succession of accidents to warn the public against any unsuspected source of danger. It is to be hoped, however, that the late lamentable instance at St. John's Wood, near London, will for ever prevent the recurrence of the almost suicidal action of sleeping in a close apartment heated by a stove constructed on such false and destructive principles as the one used on that occasion.

The case above related ought equally to afford warning of the extreme danger of sleeping in apartments which are known to be subject to smoke. The emanations from burning coal, particularly when it is smouldering, or in a low state of ignition, are quite as deadly as the fumes arising from charcoal, although perhaps less insidious in their action, on account of their being apparent or offensive to the senses. The air of the chamber which the individuals had respired in this case contained, besides the carbonic acid and carbonic oxide, the products of combustion, a portion of sulphurous acid gas, which was notably evident to the senses.

Penrith, May 1849.

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* Edinburgh Medico-Chirurgical Transactions, vol. iii. p. 548.

MEDICAL GAZETTE.

FRIDAY, JUNE 1, 1849.

Of late years there has been a great struggle to make medicine something more than a mere trade. The keeping of shops for the sale of medicines has been very properly discountenanced by our Corporate bodies: the fellowship of the College of Surgeons, and the licentiateship of the College of Physicians, have been closed against all those who cannot practise their profession without becoming rivals of the druggist. The necessity for drawing some line of distinction must be apparent. It is very true that to many men, a medical diploma without the open shop and retail, would be a barren investment; and a wife and family may furnish strong reasons for sinking the dignity of a noble profession in the pettiness of trade; but this does not alter the question as it affects the mass of the profession and public. Surgeon-druggists who can succeed only by retailing aperient pills and cough mixtures, are altogether out of place in seeking a diploma of medicine or surgery. The rules to govern the medical profession, should be as strict on this point as those adopted by lawyers. Any member of the bar who took up the sale of stamps and parchment, in order to supply the absence of fees from briefs,—in short any barrister who acted as a law-stationer, would soon find himself deprived of his professional rank. Some years since, a barrister was summarily ejected from the Courts and from the practice of his profession, because he acted as his own attorney in a case in which he was personally interested. There is no injustice in this. Any briefless barrister may, if he pleases, throw off a *profession* which is profitless to him, and take up a *trade* which will furnish the means of living to himself and family; but he has no right, on account of his want of success, to lower the status of others who belong to the same profession, and who have no desire to associate it with a trade. In law, if he even had the inclination, he could not carry out the intention without being immediately disbarred. In medicine the case is different; if once licensed he may go on practising as a surgeon or physician, thus injuring members of the profession who endeavour to give it an honourable character in the eyes of the public; and he may drive a thriving business in the sale of penny packets of Epsom salts, to the serious injury of his neighbour the retail druggist. Surely this must be regarded as a scandalous anomaly in medical government; and it is only the fact of its having imperceptibly grown up amongst us that prevents this hybrid kind of practice from being viewed in its true aspect, namely, as damaging to the character of the profession and injurious to the public.

The character of the profession is of no consideration to a man who looks only to the *quocunque modo rem* principle of obtaining a living; and therefore it becomes the more necessary that the whole of its members should join in denouncing this mixed practice; and by the establishment of medico-ethical societies, eject from among them, those who will not conform to a rule which is obviously adapted for the benefit of all. A man may be either a barrister or a law-stationer,—he cannot be both; and so we would say, let every candidate for a diploma make his election, and act either as a medical practitioner or as a druggist. Our remarks do not extend to the supply of medicines prescribed by a practitioner for his patients, a custom which, however desirable such a result would be, could not be at once broken through,—but rather to what is technically called "combining the retail," a system which admits of being summarily abolished.

Medical men complain that they are treated with contempt by the public. Their fair gains are lowered by the system of contracts, or by the extension of penny medical clubs. Boards of guardians expect a maximum of work, and allow a minimum of pay. Coroners and magistrates either do not pay them at all, or coolly obtain from them services at one fourth of their value in time and skill. Parliament turns a deaf ear to their complaints, and the public look upon them as a grumbling, discontented set of tradesmen, fond of overphysicking, and unusually desirous of making out long bills. To what can such treatment be ascribed, but to a want of self-respect among themselves. If they act like tradesmen, they must expect the treatment of tradesmen; and in this we have one good reason why the retail drug system should find no support with men who hold a medical diploma.

An anonymous writer, who takes a "long range" on this subject, and who is disposed to do away with all dispensing as well as drug-selling, says:[*]

> "The trading Galen, or shop-doctor, or surgeon-druggist, may be distinguished from the general practitioner, often by possessing only one diploma, and always by his systematic invasion of the province and interests of the regular druggist. He sometimes claims descent from the apothecary of former days, but his extraction is neither so ancient nor respectable, for he is the peculiar offspring of that modern chaos, in which the want of efficient legislation has involved all medical affairs. Here the commercial principle, the traffic in *goods* and *articles* by the member of a learned corporation, is not only unblushingly asserted, but made the dishonest means of acquiring a professional connexion. 'The shop is a sure card,' says this convenient hybrid 'twixt lancet and lozenge, and he generally proceeds to play it by selling his salts and sodas ten per cent. cheaper than his neighbour the druggist, although, being half a professional, they have cost him ten per cent. more.' And if the public are over-physicked by the surgeon-apothecary, what is their fate when they fall into the hands of Mr. Bluebottle, who, notwithstanding the '*advice gratis*,' so conspicuously advertised among his coloured waters, goes as far beyond the general practitioner in overdosing a patient, as he does below the druggist in underselling a Seidlitz? The 'sure card,' it is true, has been played by many men now eminent in the profession,[*] and a general impression prevails among the juniors, that however disreputable, it is a certain trump in opening the game of professional life; but the fancied hopelessness of a more respectable course, rather than the expediency of a 'tempting retail,' is that which compromises a gentleman's natural repugnance to the counter. This despair of success, except at the expense of honour and self-respect, is, however, only fancied: if the abuses which disgrace medicine (and doctors' shops are certainly among the worst) could be suppressed, there would be fair play for every well-educated member of the profession. It is needless to say that the half-educated, and those who are not gentlemen in principle, have no business in such a profession as the medical; they had better go digging to California or elsewhere."

With what consistency can medical men complain of the counter-practice of druggists, when they themselves become the rivals of druggists in the sale of medicines? The druggist may fairly use the argument of the shop-doctor, and allege that *he* is undersold by the latter in his packets of salts, and that he can keep himself from starving only by occasionally prescribing at a cheap rate. These surgeon-druggists are therefore fairly responsible for all the evils of counter-practice; and until they themselves lay aside a trade, they must not complain that tradesmen run away with their professional practice. While we fully admit that medical practitioners need not derive a pecuniary profit from medicine supplied to their patients, we do not see how the practice of dispensing medicines for patients in remote country places can be at once abolished. The "Physician" deals with this question in a jocular way, and as one of profit and loss to the medical practitioner. As his views embrace many of the objections which have been urged to the abolition of the practice of dispensing medicines as well as of drug-selling by medical men, we here quote them *in extenso.*

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[*] Medical Reform a Public Question; or, how to save twenty thousand lives per annum without putting the country to a farthing's expense. By a Physician, pp. 35. London: Hatchard. 1849. This is rather a taking title. The specific of the author appears to be the abolition of quackery and counter-practice.

[*] We doubt the correctness of this statement.—Ed. Gaz.

"What compensation," says the surgeon-apothecary, "shall I have for the loss of

"'Pills, powders, plasters, potions,
Draughts, ointments, drops, and lotions,
Blisters, glysters, and collyria,
Mixtures cum et ceteras—millia?'"

"A good honest five-shilling fee, or more or less, according to the circumstances of the patient."

"But a five-shilling fee, or your flippant more or less, will be no substitute for my six or eight draughts per diem, to say nothing of the interstitial et ceteras; and so those rascally druggists will run away with all my profits. Sir, your proposal is infamous!"

"My dear Mr. Cantharides, don't be angry, and above all, don't abuse the druggists, for by the proposed law those gentlemen must send you all the cases for which they now prescribe over the counter, or otherwise mulct of their health; and if I do not greatly mistake, the increase of patients will more than make amends for the loss of medicine."

"Why, yes—there may be something in that: to be candid with you, I never liked salts or jalap, and I have always thought gallipots very unprofessional; but then, what pays like physic? Only think of eight draughts a day, with powders, &c., ad nauseam! You do not mean to say that the druggists are to be allowed to walk away with all this? Why, it cost me five years' apprenticeship to mortars and pestles, three months' hard grinding in Professor Stuffem's mill, and two hours' cruel funking at Rhubarb Hall, to obtain this *privilege.*"

"Very likely—such a privilege deserved to be paid for, and it is not for a moment contemplated to transfer it to a party who never passed through the ordeal of either Mill or Hall; the public are to reap the sole benefit of the change, for the eight draughts a day (*should they be necessary*) can be put in the form of a half-pint mixture, for which the druggists will charge fifteen or eighteen pence: the powders and other *et ceteras* may, *perhaps,* be dispensed with."

"Oh! as to that, in five cases out of six the medicine may be dispensed with altogether, especially as we shall then have no interest in ordering it; but you do not intend to let a patient off for five shillings who has been accustomed to pay eight, ten, or twelve—to say nothing of the dosing he will escape?"

"Why not, my good sir? Is it not evident that the fear of large fees and heavy drenchings drives multitudes to the quacks, the homœopathists, and the hospitals? These would all support men like yourself if they could be prescribed for moderately."

"That might be, but then—five shillings! or perhaps, in particular cases, half-a-crown! and some puppy of a pure crying out, 'Poor fellow! it is as much as he is worth.' Oh! it will never do—we are gentlemen, and must consider the dignity of the profession."

"My dear Mr. Cantharides, the opinions of all the puppies in the world are of little moment in a matter of duty; as to that imposing phrase, 'the dignity of the profession,' how often has it been used to cover a mercenary selfishness, a vapid professional coxcombry, an unprincipled ambition, and above all, that assumption of importance without the reality, which expects big fees because itself looks big, and of which it may be said, 'Quale caput, sed cerebrum non habet.' The true dignity of the medical profession consists in faithfully and efficiently employing that great gift of healing which the providence of heaven has committed to it; and how can this be done if the love of lucre or any other sordid motive prevent the full exercise of our noble art among all classes of our suffering fellow-creatures?"

"True—very true; but tell me now, if you would transport us for dispensing medicine, how should we manage when a sudden seizure demanded an instant dose to save the patient's life?"

"The medicines required on these occasions are very few, and a chest, two inches square, would answer every purpose until the prescription could be made up at the druggist's; no medical man should ever be without such a chest."

"Well, but don't you think the shop drugs often much adulterated? and would not our credit and our patients' lives be at the mercy of the druggists if we gave up dispensing?"

"By no means; for their medicines, coming from the same places, are not more adulterated than your own. A commission, however, consisting of a good analytical chemist, and an experienced pharmaceutist (neither of whom should be in any way connected with the *trade*), visiting the shops and examining the drugs at uncertain intervals, with full power to indict and fine heavily any party keeping impure or inferior articles, would infallibly procure for the public a supply of genuine medicines. At present there is not one surgeon-apothecary in five hundred who tests by chemical analysis, the purity of any article brought into his surgery."

"Very likely not. For my own part, if I could remember sufficient chemistry for the process, I would not dirty my fingers with it. But how could a country practitioner dispense with drugs, when there might not be a druggist's shop within miles of his abode?"

"Such a case *must* be an exception, and to prove the value of the rule, it is the only reasonable exception that can be urged against it; the difficulty, however, would be easily met by allowing gentlemen practising in the country to dispense their own medicines, on producing proof that no druggist lived within a certain distance."

With some flippancy there is sense as well as justice in these remarks: and we believe that there are some hundreds in the medical profession now practising as druggists, who, if they gave themselves time to reflect upon their position, would admit that the author's satire was well deserved.

In considering this degrading position into which some mercenary men are attempting to thrust the whole medical profession, for the sake of increasing their yearly profits, we cannot overlook an event of recent occurrence in the election of a surgeon to one of the old metropolitan dispensaries. From the correspondence elsewhere inserted,* we learn that the medical officers of the Royal South London Dispensary have resigned in a body, owing to a committee of Governors having admitted as a candidate for the vacant office of surgeon, a surgeon-druggist, or an "Open shop-doctor." We need not enter into the details of this affair: they will be apparent from the documents. The circumstances which commonly lead to abuse in the government of such institutions, appear to have been at work here. Much power has been concentrated in a small number, and the decision of a committee of three members, one of them a strong supporter of retail shops, has been allowed to overrule the judgment, as expressed on a former occasion, of the great body of the subscribers. From the view we have taken of the shop-doctor question in these remarks, our readers will judge that while we highly approve of the conduct of the medical officers in tendering their resignation under the circumstances, we must condemn the decision of the committee as derogatory to the medical profession, and damaging to the interests of the Charity†.

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* See page 968.

† We have before us the names of the Committee, as well as those of the three candidates who have been since elected surgeons, and who are to receive a small annual consideration for their services. Looking at the names on the Committee, we are not surprised at the decision. Two out of the three *surgeons* to the South London

The medical officers of this Dispensary must hereafter consist of the shop-doctor class: the subscribers have surrendered the profession for a trade, and must abide the consequences. The keeping of an open shop for the sale of drugs, we care not whether quack-medicines, soap and perfumery, be or be not included in the retail practice, is, in our opinion, quite sufficient to disqualify a man from taking the office of *surgeon* to a public infirmary or hospital. An attempt has been made to draw a distinction between the open selling of drugs for medical purposes and the sale of quack medicines, but this is surely a distinction without a difference.* It is the *trading* character of the transactions, whether the article sold be a box of the shop-doctor's own pills or a bottle of Dalby's Carminative, which constitutes the true ground of disqualification. The South London Dispensary officers will carry with them the feelings of the better part of the profession: they have acted on the true principles of medical ethics; and if all showed as good a spirit to sacrifice present prospects for maintaining the real dignity of the profession, we should not hear of these attempts to force tradesmen into a position for which their "line of business" renders them wholly unfitted.

ROYAL COLLEGE OF SURGEONS.

Gentlemen admitted members on the 25th ult.:—G. E. Williams—S. Wade—W. B. Tate—R. Donaldson—J. B. Ruck—J. D. Hulme—H. Tapley—C. G. Wheelhouse—C. J. Bullock—T. Johnson.

CLINICAL LECTURES ON THE PHYSICAL DIAGNOSIS OF PHTHISIS.

Delivered at the Hospital for Consumption and Diseases of the Chest.

By Richard Payne Cotton, M.D.

Member of the Royal College of Physicians, London; Assistant-Physician to the Hospital.

Lecture III.

The first stage (continued).—Description of rhonchi and other sounds resulting from morbid secretion, and altered physical state of the lung—their pathological classification, and division into direct and indirect signs of phthisis—the relative value and frequency of each—Importance of dry crackling rhonchus—Pulmonary crumpling sound examined.

The earliest indications of tubercular disease are chiefly connected with changes which have been already considered; but as the first stage advances, others are met with, consisting of sounds depending either upon the altered physical condition of the lung, or the presence of morbid secretion. I shall not enter minutely into the characters of all these; but, referring for detail to the various works on the subject, and particularly recommending clinical observation, I shall limit myself to their distinctive peculiarities, dwelling chiefly upon those most connected with phthisis.

1. Sounds depending upon morbid secretion:—

Dry.
- Sibilant rhonchus.
- Sonorous ,,
- Dry crackling ,,
- Crepitant ,,

Humid.
- Sub-crepitant rhonchus.
- Mucous ,,
- Humid crackling ,,
- Cavernulous ,,
- Cavernous ,,

2. Sounds depending upon altered physical state of the lung:—

Friction murmurs.
Pulmonary crumpling sound.

Sibilant and sonorous rhonchi are produced by mucus in the bronchial tubes, and differ from each other only in tone, the former being shrill, and the latter grave; the existence of one or the other is determined by the quality and quantity of the secretion, and the calibre of the tubes: they include every variety of intonation, from a shrill whistle to a deep snore; are usually

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Dispensary are retail shop-keepers—the rivals of druggists!

* This attempt reminds us of an anecdote of the old King of Naples. An Englishman complained to one of the King's companions that His Majesty desecrated the Sabbath by making shooting excursions on a Sunday. The latter replied that it was true His Majesty went out with his gun, but he only shot very small birds!

very audible; accompany both murmurs, but especially the inspiratory; frequently disappear at one moment, to reappear the next; and can be altered by coughing.

Dry crackling rhonchi consist of a succession of clear and dry clicks; varying in number (generally from one to five); irregularly evolved; distinctly separated from each other; and chiefly, but not exclusively, heard during inspiration.

Crepitant rhonchus, which is essentially dry, although usually placed with the humid class,[*] is composed of a number of minute, clear, and crepitating sounds, precisely resembling each other; regularly and rapidly produced; and existing at first only with inspiration, but afterwards with both murmurs.

Sub-crepitant rhonchus conveys the idea of humidity; occurs chiefly in inspiration; and consists of a succession of dissimilar bubbles, changeable in number, and alterable by coughing.

Mucous rhonchus is much allied to the sub-crepitant, but differs from it in being of larger size, more distinctly bubbling, and more readily removed by coughing.

Humid crackling rhonchus agrees in all respects with the dry crackling, except in being of larger size, and distinctly humid.

Cavernulous and cavernous rhonchi are degrees of each other, and give to the ear an idea of hollowness,—the former of a small, the latter of a larger cavity: they are humid and bubbling; more or less metallic in sound; constantly change as the patient coughs; and attend both respiratory murmurs.

Friction sounds depend upon a morbid state of the pleural surface, and vary in character, but always convey a sense of rubbing: they are irregular in occurrence, and accompany either one or both murmurs, but more frequently the inspiratory.

Pulmonary crumpling sound, according to its discoverer, M. Fournet, sometimes resembles the noise of creaking leather; is occasionally a plaintive murmur, varying with the state of the patient, and the force of respiration, but most commonly imitates the peculiar sound produced by blowing upon tissue paper.

If these sounds be arranged according to their accompanying diseases, they would appear thus:—

Bronchitis.	Sibilant rhonchus.
	Sonorous ,,
	Sub-crepitant ,,
	Mucous ,,
Pneumonia.	Crepitant rhonchus.
	Sub-crepitant ,,
Pleurisy . .	Friction murmurs.
Phthisis.	Dry crackling rhonchus.
	Humid crackling ,,
	Sub-crepitant ,,
	Cavernulous ,,
	Cavernous ,,
	Crepitant ,,
	Pulmonary crumpling sound.
	Friction murmur.
Pulmonary congestion.	Sub-crepitant rhonchus.
	Mucous ,,
Dilated bronchi.	Cavernulous rhonchus.
	Cavernous ,,

In this arrangement the only sounds not occurring in two divisions are the varieties of crackling rhonchi, and the pulmonary crumpling: these are consequently *direct* signs of phthisis, trustworthy under any circumstances[*]; the rest become so only under certain conditions, such as position, and co-existing symptoms, and may be called *indirect*, as indicative of disease which may or may not be secondary to tubercular irritation.

The period during which tubercle seems to act merely mechanically, by impeding the proper function of the lung, varies considerably; in rapid cases inflammatory action takes place almost simultaneously with their deposition, but in the chronic form it may not happen for months or years, when the tubercles are said to be latent. When inflammation occurs, it is generally limited to the neighbourhood of the tubercular matter, but may extend more or less over the entire lung: in the former case its presence, as indirect evidence of phthisis, is highly valuable, and when according with the general symptoms, conclusive; but in the latter some uncertainty may prevail, although the history and progress of the case will generally lead to a right diagnosis.

I shall now describe in succession the relation of the preceding sounds to the first stage of phthisis: and first, of those which act *indirectly*.

Phthisical patients are very liable to general bronchitis, known by sibilant and sonorous rhonchi in most parts of the chest, whereby the respiration is masked, and the tubercular affection liable to be overlooked, especially as percussion here loses something of its value, because it is just possible that slight dulness may depend upon accumulated mucus: such cases should be examined as the inflammation declines, when some rhonchi will be found lingering about the upper part of the lungs;—exactly the contrary to what happens in idiopathic bronchitis. Sibilant and sonorous rhonchi, unless under such circumstances, are of little importance as evidence of early phthisis, because the local bronchitis resulting from the irritation of tubercles is seldom seated in the larger bronchial tubes.

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[*] The mechanism of crepitant rhonchus is not well understood, but there seems no reason for retaining it amongst the humid class, even admitting that it proceeds from a moist and not a dry state of the lung. As well might sibilant and sonorous rhonchi be called *humid*, as the mucus producing them is certainly anything but *dry*. All sounds should be termed *dry*, or *humid*, with reference to the idea they convey to the ear, and not to their supposed origin.

[*] Although I believe this applies to all three, it does so perhaps with greater certainty to the two former, as M. Fournet mentions having found the latter in three patients not phthisical.

Subcrepitant rhonchus, indicative of inflammation in the smaller bronchi (capillary bronchitis), is a valuable sign of tubercles, and, although more common after softening has commenced, may occur during any stage of the disease, particularly amongst the poor, and those most exposed to changes of temperature. Capillary bronchitis may be idiopathic, as well as secondary to tubercle; but the former invariably attacks both sides pretty equally, and begins at the base of the lungs, whilst the latter is strictly local, or occupies only the diseased side: hence comes the following practical rule,—subcrepitant rhonchi, either at the apex or base of one lung only, declare the presence of tubercles in that side; but when at both bases, or throughout both lungs, they point rather to an idiopathic inflammation: in the latter case, however, the conclusion is less certain than in the other, inasmuch as if tubercles exist to a tolerably equal extent at both apices, a similar result might happen. When capillary bronchitis attacks the base of a tuberculous lung, in most cases the upper lobe is likewise affected, and the inflammation may be heard extending from each point, until, by meeting towards the centre, the whole lung becomes filled with subcrepitant râles.

I have never heard a mucous rhonchus in the situation of tubercles before softening has commenced; unless it be the variety called "submucous," occurring in the smaller tubes, and hardly distinguishable from the sub-crepitant,[*] which may sometimes be met with after hæmoptysis has taken place, not only in the seat of the disease, but in distant parts of the lung,—when it is probably due to the presence of blood.

Crepitant rhonchus (fine crepitation)—the characteristic of pneumonia—is of rare occurrence with tubercular disease; simply because the local inflammation caused by tubercle is much more frequently of the smaller bronchi than the parenchyma of the lung, and when the latter is affected it would seem to be more often in a congestive than inflammatory state. In 400 out-patients examined at this hospital, I have not met with an unequivocal fine crepitation in the vicinity of tubercle—in other words, with tubercular pneumonia; but, without doubt, it occasionally exists: I can only speak practically of its rarity. Fine crepitation at the apex of either lung should always excite strong suspicion of phthisis; but since idiopathic pneumonia sometimes occupies the upper lobes, further evidence, and particularly the general history of the case, would be required to determine its real signification.

Friction murmurs are more commonly met with during the first stage than crepitant rhonchus—that is to say, local pleurisy is less rare than pneumonia: in the same number of cases I have discovered them about ten times; they were invariably of a creaking character, and very transient. It is singular that in every instance other symptoms were but indistinctly marked, which might lead to the inference that the tubercles were situated superficially, and the pleura consequently irritated, whilst the lung itself was but little implicated—circumstances naturally favourable both to the existence and detection of local pleurisy. Whenever an unequivocal friction murmur is limited to the apex of the lung, it becomes a valuable sign, and justifies the suspicion of pleurisy resulting from tubercular irritation.

The relation of cavernulous and cavernous rhonchi to phthisis will be considered hereafter, in treating of the third stage.

We now come to the varieties of crackling rhonchi—viz. dry and humid, which, unlike any of the preceding, are *direct* indications of phthisis, and never occur in any other disease. Fortunately there are none better named, more readily recognised, or more easily remembered; and although their mechanism is unexplained, they have been so universally found to co-exist with tubercles as to leave no doubt of their relation as cause and effect. The dry rhonchus belongs to the first stage, and the humid to the second; therefore, at present, I shall only dwell upon the former. This râle is never heard at the very commencement of the disease, but it is probable that there are few or no cases which do not present it for a shorter or longer time towards the latter part of the first stage. Its general origin may be thus stated:—after many weeks, or even months, of the earlier signs—such as diminished resonance, jerking, harsh, or weak respiration, one or two dry clicks are heard during inspiration, and about the same time the breathing becomes more impaired—either less complete, or bronchial, with prolonged expiration. One single click is enough for diagnosis, and upon such evidence alone I have often founded it; but two, three, or more are usually heard: at first they are only with inspiration, but as the case advances they may attend both murmurs, and in proportion to their abundance with the expiratory is the increase of the disease declared. I always regard dry crackling as an unfavourable sign, as it seems to indicate either the passage of tubercles from their state of latency, or a sudden increase in their number; for, when once established, it invariably remains, until superseded by the humid variety, or other moist rhonchi, and may be heard at every subsequent examination, if not in tranquil, at least in forced respiration. Its duration is variable: in some cases it is rapidly transformed, and in others remains many weeks; but I cannot remember having heard it in the same spot longer than three months.

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[*] MM. Barth and Roget include mucous and subcrepitant rhonchi under one description.

Pulmonary crumpling,—said by its discoverer to occur in one-eighth of all cases of phthisis,—has had its very existence denied by subsequent writers. Having had unusual opportunities of examining early cases, I have particularly attended to this subject, and can, without hesitation, declare, that, whilst I am somewhat sceptical as to his first two varieties, I have no doubt of the third, although I believe he has overstated its frequency. I have often heard a rhonchus at the upper part of the chest of a dry plaintive character, much resembling the new leather friction sound, and have thought that to something of this kind were to be referred the first two varieties; but in all such instances there have always been sonorous or sibilant rhonchi in other parts of the lung, and the murmur has not only been absent at a subsequent examination, but disappeared at the time by coughing; hence, I have generally attributed it to their modification.

Of the third variety, resembling the sound of crumpling tissue paper, I have met with several instances. According to my experience, it occurs only at the apices of the lungs, distinctly conveying the idea of their expansion under difficulty; is most audible posteriorly in the supra-spinous regions; is limited to inspiration, and sometimes heard only during forced breathing; appears to accompany only the early stage, usually before other symptoms are much developed; remains but a short period (hence, perhaps, the infrequency of its detection); and is invariably succeeded either by harsh respiration, or dry crackling rhonchus. In consequence of the doubt attending it, I once called the attention of two Physicians, well practised in auscultation, to three well-marked examples, when they admitted that the sound was neither a friction murmur nor rhonchus, and that no title could convey a better idea of its character than that adopted by M. Fournet. From its rarity and short duration, it ranks not amongst the most important signs of phthisis; but, when distinctly ascertained, it may be regarded as pretty conclusive evidence of the disease.

Reviews.

Reports on Asiatic Cholera, in Regiments of the Madras Army, from 1828 *to* 1844; *with Introductory Remarks on its mode of diffusion and prevention, and a Summary of the general method of treatment in India.* By Samuel Rogers, Fellow of the Royal College of Surgeons, and Surgeon of the Madras Army. 8vo. pp. 267. London: Pelham Richardson, and Samuel Highley. 1848.

This volume includes nineteen reports on Asiatic cholera, an introductory chapter by Mr. Rogers on the causes and mode of propagation of the disease, as well as a concluding chapter, containing a summary of the various plans of treatment tried or adopted by the reporters. We shall strive to put our readers in possession of a brief but comprehensive analysis of so much of the contents of the volume as may appear to be of practical utility.

Mr. Rogers's introductory chapter is addressed especially to the bearing which the reports have upon two very important "practical and medico-political" points.

> "1st. That cholera has its origin in other than human sources, and that the communication of the sick with the healthy is not necessary for its diffusion.
>
> "2d. That cholera may be in many cases averted, and its mortality much lessened, by proper precautionary measures being adopted." (p. 3.)

It is generally known that the opinions of Indian medical practitioners are in harmony with these two propositions.

Mr. Rogers, who considers that the cholera is not contagious, says

> "I could, from my own experience, relate many circumstances bearing on these points, but the reports contain sufficient evidence in themselves to satisfy any one that cholera is a disease called into action in certain localities, from finding in such situations the conditions necessary to its production, without the intervention of human contagion." (p. 16.)

He attributes its spreading in a locality to the effluvia arising from the assemblages of great bodies of people. Thus

> "At Juggernaut (see Chap. XVII.) it is an annual visitant. The town of Pooree contains 35,000 inhabitants, and the number of pilgrims sometimes amounts to 150,000. The inhabitants are usually quite healthy before the occurrence of the festival, which takes place in June or July; but immediately on the arrival of the pilgrims, and when the lodging-houses are literally crammed with inmates, cholera suddenly breaks out, and in the space of a few days hundreds are cut off by it. This is not an occasional or accidental occurrence, it is an invariable one; and the disease which had thus been generated, as suddenly disappears on the dispersion of the crowd, a few isolated cases only occurring for two or three days after the departure of the pilgrims." (p. 17.)

With regard to the period required for the development of an attack after exposure to its causes, Mr. Rogers observes—

> "In relation to this manner of transmitting the disease, the period of incubation which is necessary for its production becomes an important matter for consideration. This would appear to be most uncertain: in the case related by Dr. Henderson it seems to have been scarcely two days; in a report of the Transactions of the Medical and Physical Society of Calcutta, by Mr. Baker, on the period which may elapse between the first impression of the causes of cholera and the development of the disease, illustrated by numerous cases, three days appear to have been the usual period. Dr. Mouat says, 'he is strongly inclined to infer that the seeds of the disease may remain inert much longer in the system than is generally supposed;' and he gives *twenty-seven days* as the time sometimes requisite for its maturation. One instance in relation to this subject occurred in a ship proceeding from Bombay, where the cholera was raging at the time, to Singapore, carrying native convicts. Cholera broke out amongst these people after the ship had been eighteen days at sea; here we must conclude that the disease had been imbibed at Bombay, or that the ship itself had become a depositary of the poison." (p. 21-22.)

Mr. Rogers states that he has known active purgatives prove an exciting cause of a fatal attack. We do not gather from him that any particular kind of diet has excited it, but deficient food and excessive fatigue have frequently been traced as predisposing causes. The editor points out the great want of the requisite sanitary measures on the part of the authorities in India.

1st Report. Dr. Murray states that influenza had been extensively prevalent and severe in the district in which cholera shortly afterwards attacked the troops, 62d regiment, on march from Bangalore to Masulipatam, 1833. The events which occurred on this march afford a very striking illustration of the obscure local causes of the disease in traversing a certain pass: this regiment, as well as several others, suffered severely.

The author advocates venesection, calomel, and opium, in the treatment of cholera.

2d. Dr. Lorimer gives an interesting table, showing the chief features of the cases under his care, and the results of treatment. This gentleman thinks that venesection is one of the best remedies which we possess.

On the question of contagion, he makes the following judicious remarks—

> "Instances, however, soon became frequent where those in contact with the affected were attacked, and in a proportion manifestly greater than those who avoided such intercourse, so much so that the belief of its possessing a contagious property was forced upon me."
>
> "It appears to me no objection to the supposition of the contagious nature of this disease, that many of those who had free intercourse with the sick were not affected: the same is observed in other diseases possessing acknowledged contagious properties; for example, plague, small-pox, typhus fever. Persons have been known to have closely attended upon the two latter, more particularly the last, for one, two, and even three years, before the disease was communicated. In ascribing to this disease, therefore, a contagious property, I admit that the contagious poison arising from those affected, is governed by laws greatly different from those which regulate the diffusion of that of other contagious diseases, and that its action, even on those the most fully exposed to it, must be very much dependent on other circumstances in their situation. What these are I have not been able to make one positive observation, except that fear and dread of the disease, and an insufficient quantity of food, appeared to favour its action." (p. 43-44.)

3d. This report, by Mr. J. Sutherland, affords an instance in which it would be extremely difficult to trace the source of the disease. It broke out in a ship, on its voyage from London to Madras, about 500 miles from the nearest land, and about 700 miles from the coast of Africa, the wind blowing at the time in the direction of the river Gambia. The ship passed through a vast extent of phosphorescent animal or vegetable matter, to the decomposition of which, under the heat of a vertical sun, the reporter is inclined to attribute the appearance of the disease. The waters of the ocean on the west coast of Africa are, according to the late Professor Daniel, impregnated with sulphuretted hydrogen; and to the noxious action of the gas he attributes the fatality of the climate; but this observation was not confirmed by the medical officers of the Niger expedition.

4th. Mr. Macgregor, the author of this report, reviews the existing state of information on cholera at the time he was first called upon to treat it; and considers that our knowledge of the subject may be improved by reference to the doctrines of humoral pathology.

The reporter places in a strong light the condition of the soldier while in barracks in India; the crowding of the troops into narrow limits; the bad ventilation; the want of conveniences and comforts of all kind, and the overwhelming nuisances of bugs and vermin from deficient means of ablution. This is enough to account for the fatality, if not for the origin of disease.

5th. The fifth report, by Mr. Lawrence, shows the extreme importance of medical treatment and unremitting attention. No person who had the disease at this time (early in 1847) recovered without applying to the hospital for aid, and numbers died who neglected to make application. We quote this as a set off against the rather discouraging view taken by some, that we are little, if any, wiser than we were in 1831-2, and that medical science avails little against this disease. The remedies employed were chiefly blisters to the epigastrium, calomel, opium, and ammonia.

6th. The sixth report, by Dr. French, attaches more importance to good nursing than to medicine. The author thinks well of the free use of gelatin and albumen in cholera.

7th. In the seventh report, Dr. Mouat dwells upon the differences manifested by the disease in different localities, and the fact that it exhibits greater malignancy in some than in others. He suggests that by judicious encampment, the disease may be avoided, or its virulence mitigated.

These reports obviously present a community of features: we therefore think it advisable to refer our readers to the volume itself for a more intimate acquaintance with their details.

We must, however, find room for Mr. Rogers's summary of *treatment*.

> "The division of an attack of cholera into two distinct periods is of much practical importance, as the remedies which we employ must have reference to the stage of the disease in which the patient first comes under treatment.
>
> "In the first period, the indications of cure are—to arrest the inordinate discharges from the bowels—to arouse the depressed functions of the nervous system and of the organs of circulation—and to prevent, if possible, the loss of animal heat, which seems to be accelerated by the watery exudation from the skin.
>
> "To fulfil the first of these ends, numerous astringents are used, and along with them stimulants are also indicated, and very generally employed. Sinapisms to the cardiac region, and strong counter-irritation applied to the epigastrium, are also advantageous. The patient should be covered warmly with blankets.
>
> "*Venesection* has been advocated by many, and very generally practised in this stage of the disease; but to be of service it should be performed early, before the heat of the body is much diminished, and the skin has become clammy."
>
> "*Emetics* are constantly given in the early stages, but their use appears to be based principally on theoretical grounds: by some they are described as acting beneficially in arousing the stomach from its atony, and in emulging the biliary ducts; whilst by others they are given with an idea that the shock caused by their action aids in restoring the circulation: for this latter purpose mustard emetics, and antim. potass. tart., have been strongly recommended by many practical men, and we may therefore conclude that they have occasionally been found useful."
>
> "Calomel in small doses is used by most practitioners, and the following formulæ are highly recommended:—Calomel, Pulv. Capsici, aa. grs. iv.; Opii, gr. iss. or gr. ij.; Assafœtidæ, gr. ij. Ol. menth. pip. ♏. i. to be repeated at intervals whilst purging con-

tinues, until eight or ten grains of opium have been taken."

"*Sugar of lead and opium* are acknowledged by most practitioners to be one of the best combinations which we possess in arresting purging in the premonitory stage of cholera, given in doses of gr. ij. of the former, and Opium, gr. i., repeated according to circumstances. Along with stimulants this combination is most efficacious in allaying irratibility of the stomach, and in mild cases will often cut short the disease."

"*Stimulants* are of great use in the incipient stages of cholera; but it would be tedious to enumerate all the medicines of this class which have been prescribed; a few may, however, be mentioned, which have been tested by experience, and are found to be of real service. Of these, the spirit. ammon. aromat., the spiritus ætheris sulphurici, and sp. æth. nitrici are the best, and the carbonate of ammonia and camphor, when we wish to administer stimulants in the solid form, for fear of inducing vomiting. Quinine, from its influence over the nervous system, appears to possess a certain power in counteracting the effects of the poison, when given in the early stages. The Indian hemp has also been advantageously used for this purpose, with the effect of almost immediately raising the temperature of the skin." (p. 258—262.)

If these means fail to arrest the disease in the first stage, internal remedies are not likely to be serviceable. The indications are then—

"1st *Remedies. To relieve Cramps.*—Frictions with various stimulating embrocations have been recommended, but the annoyance which they cause to the patient is quite sufficient to counterbalance the good produced by them. The application of flannel bandages has been found more efficacious for this end than any other mode of treatment."

"Bags of warm sand applied to the feet are of service in preserving the heat of the body; frictions of flour or hot ashes over the extremities, are also favourite remedies with the natives of India, and are certainly useful in absorbing perspiration and preventing evaporation." (p. 262-263.)

Cold douches and cold baths have been tried, but without marked benefit. The same may be said of saline and stimulant enemata, electro-magnetism, saline injections into the veins, inhalation of oxygen gas, &c.

Mr. Rogers points out the necessity of caution in the use of purgatives during convalescence.

With regard to *prognosis*, all is uncertainty until the return of the pulse—of warmth to the surface, and the restoration of the secretions of bile and urine. Then, indeed, it may be said that recovery has begun.

The temperature of the tongue and the state of the heart's action may afford some guidance in prognosis; but it must be borne in mind that in cholera as in all epidemic and contagious diseases, certain symptoms will predominate in one season or place, to be replaced by other symptoms in another season or district.

We fully concur in the opinion expressed by Mr. Rogers in closing his reports.

"These peculiarities in the features of cholera render the practical knowledge of any one individual, however great his opportunities of observation may have been, of but little value in comparison with such an accumulation of facts as are to be found recorded in these pages; and which, though they contain no new views, show that the opinions promulgated in recent works upon the subject, published in Europe, have been anticipated in India, and that since the appearance, in 1823, of the highly-valued reports of Mr. Scot, which were collected and published under the auspices of the Madras Medical Board, the press of India has been constantly employed in keeping up supplementary information on this most important subject." (p. 267.)

To all who are desirous of having an accurate record of observations regarding the cholera in India, this volume will be found most acceptable.

Pathological and Practical Observations on Strictures, and some other Diseases of the Urinary Organs. By FRANCIS RYND, Esq., A.M., M.R.I.A., &c. Surgeon to the Meath Hospital, and County of Dublin Infirmary, &c. 8vo. pp. 195. London: Longman and Co. 1849.

No volume was ever more correctly named according to its contents than that which is now before us. The diseases of which it treats are described from nature, the views which it propounds are based on pathological science, and the treatment recommended is derived from an extensive practical acquaintance with the almost endless forms under which diseases of the urinary organs present themselves to the surgeon.

Mr. Rynd first treats of the anatomy and pathology of the urethra in reference to stricture; and observes that gonorrhœa is not so common a cause of this morbid state as has been generally admitted. He attributes a more direct influence to muscular spasm, to local injuries, and other causes.

In the treatment of stricture, he is opposed to the operative proceedings of various kinds which have been had resource to; he justly doubts whether a much more delicate sense of touch than is possessed by most hands, be not required, to enable the surgeon to judge of the precise position of his instrument previously to the infliction of incisions within the canal. The author trusts rather to a patient, gentle, persevering dilatation, by the conical bougie, than to these more violent and less safe operations.

Mr. Rynd's observations and advice on the treatment of retention of urine are judicious and valuable. The existence of spasm is often too much lost sight of in the efforts to introduce the catheter into the bladder. The same remarks apply to his observations on fistula in perineo, on extravasation of urine, and on diseases of the prostate gland.

We know of no work that presents such comprehensive or such admirable rules on the subject of treatment.

A Physician's Holiday; or, a Month in Switzerland in the Summer of 1848. By John Forbes, M.D. F.R.S. Murray. 8vo. pp. 520.

The most zealous cultivators of medical science,—the most industrious students of medical literature, even the kindest readers of the Medical Gazette,—occasionally become wearied with professional lore. Microscopical anatomy, transcendental physiology, organic chemistry, pall upon the sated appetite; even clinical lectures, the last new specific, or some fashionable collection of elegant formulæ for disguising abominable drugs, are found deficient in interest. It is almost in vain to turn for refuge to our non-professional contemporaries, and rush for solace to endless debates on navigation laws, foreign policy, financial reform, or "marriage with a deceased wife's sister":—all proves vain. The mind requires change of air: to those of our esteemed readers who seek such a change, we recommend a "holiday at home," made with the interesting account of a Physician's Holiday, which Dr. Forbes has here presented to us. If they do not obtain as pleasant a holiday as we have done, the reason will certainly not be any want of interesting information and animated description in the book.

We do not intend to make any analysis of, or to select extracts from, the work, but we may state that those who are able to follow the author's example, and make a month's holiday in Switzerland, will find a full account of every day's proceedings, of the necessary preparations for the journey, and of the difficulties which may arise, with the means of avoiding or overcoming them. All the medical portion of the book is most sound and practical. It consists of observations upon "persons likely to be benefited by travelling," with sanitary hints to travellers on clothing, drink, food, and regimen, which cannot fail to be of great value to all who wish to gain for themselves or for their patients the greatest possible advantage from a tour in the shortest possible time. We must not forget to draw attention to the account of Dr. Guggenbühl's cretin establishment.

Those who, like ourselves, are tied to the desk—fixed in busy, smoky, foggy, London—those whose travels are all performed at the fire-side, or in the professional gig, cab, brougham, or chariot—will perhaps rise with some feeling of envy from a perusal of glowing descriptions of fine scenery they never hope to behold; but they will find that the contemplation of nature, even in the mind's eye, and through the dark veil of print, has in it something ennobling, something which exalts the spirit, which supplies stimulus to genius, energy to the will, and renewed freshness for the daily toils of a professional life.

Proceedings of Societies.

PATHOLOGICAL SOCIETY OF LONDON.

May 21, 1849.

Aston Key, Esq. in the Chair.

Mr. Shaw exhibited specimens of tubercular matter deposited as firm circumscribed tumors, two in the lower part of the spinal marrow, and two in the brain. The patient, a laundress, was admitted into the Middlesex Hospital on the 23d January, 1849. For two months previously she had been in a declining state, unable to use any exertion, but had neither fits nor paralysis. During the first six weeks after her admission, her complaints were pains in the back and lower extremities, with deficient power in the legs; but owing to a general torpor in her manner, it was difficult to obtain satisfactory answers to questions; and, in the absence of more decided symptoms, it was supposed that her complaints might be hysterical. At the end of that time her legs became affected with tingling and pricking pains, and in the course of a fortnight she had complete paraplegia, both motion and sensation being destroyed simultaneously. At the same time she began to suffer severely from spasmodic contraction of the muscles, which came on when about to fall asleep, or when the legs were touched, or she was shifted in bed; and the knees were then rigidly bent, and drawn up to her abdomen. When the catheter was introduced into the bladder, the spasms were brought on. Her bowels were generally constipated; but after the action of medicine she could not retain the fæces. She continued to suffer great pain, and was deprived of her sleep, from the spasms in the legs. She had also a catching pain, perhaps arising from spasm, in the lower ribs, and in the hypogastrium. She pointed to the spinous processes of the lumbar vertebræ as the seat of pain in her back; and as there was a slight projection of one of these processes, it was thought that her symptoms might arise from caries of the bodies at that part. A slough, which gradually became extensive, formed over the sacrum. Latterly she had a severe attack of bronchitis, and died 6th May, retaining her consciousness to the last. On the post-mortem examination no morbid appearance presented itself till the theca vertebralis was slit open. The membranes were then seen to be quite healthy; but at two points, the upper one opposite to the eighth, and the lower to the twelfth, dorsal vertebra, the spinal marrow was slightly swollen into a globular form, and felt hard; the surface, in colour, texture, and vascularity, remaining unchanged. On making a longitudinal section of the upper swelling, an oval mass of tubercular matter, three quarters of an inch in length, and about the same diameter as the spinal marrow, of the firmness of a lymphatic gland, of uniform structure, and of a pale green hue, was seen to occupy the whole interior of the organ, and was invested all round by a thin layer of medullary matter. The structure of the spinal marrow immediately adjoining the morbid growth appeared sound. The swelling a few inches lower down was found to be caused by a similar circumscribed mass of tubercular matter, contained in the interior of the cord, but it was somewhat smaller in size. In the left crus cerebelli, close to the pons varolii, and about its middle, another tubercular tumor, in colour and size not unlike the kernel of a hazel nut, was found imbedded in the substance of the crus, at the depth of about a quarter of an inch from the surface, the adjacent medullary mātter being quite healthy. There was also a tumor of the same structure, and of the size of a pea, in the left hippocampus minor. Tubercles were scattered through both lungs; and in the upper lobes some seemed to be breaking down.

Mr. Henry Gray exhibited a specimen of

Ulceration of the Sella Turcica, with Softening of all the Central Parts of the Brain.

The patient who was the subject of this disease was a man 30 years of age, who was admitted into St. George's Ho-pital on the 25th of April, under Dr. Wilson. He complained of pain in the head, which he said was more severe on lying down. There was considerable anxiety about his face, his ideas appeared to be confused, and when spoken to he was with difficulty roused from the half unconscious state in which he was lying. There appeared to be also much confusion of thought and slowness of articulation, consisting rather of a measured enunciation of each word than a pausing or stammering in his speech. He stated that he had been ill about a month, but made no other complaint than the pain which he felt in the head and down both legs. The head was hot, and the pulse weak and feeble. He was ordered ice to the temples, with saline draughts, and a small quantity of wine. In the evening he became delirious for two hours, but recovered his consciousness, and died early the next morning, about twenty hours after his admission.

In the post-mortem examination the membranes of the brain were found quite healthy.

The ventricles of the brain were of their natural size, and not distended with fluid. The substance of the brain was very soft, more particularly all the central parts of this organ—the septum lucidum, the fornix thalami, and corpora quadrigemina; but there was no appearance of increased vascularity. The pituitary body was large, and of somewhat softer consistence than natural. The back part of the depression in the body of the sphenoid bone (sella tursica) in which it is lodged was partly destroyed by ulceration, hollowing out a small cavity in this part of the body of the bone sufficiently large to contain a small nut. The cavity itself was filled with thick curdy pus, and its direction was towards the under surface of the body of the bone, in the situation of the roof of the pharynx; but there was no communication existing with this cavity.

In a preparation, however, which is contained in the museum of the hospital, where there is extensive caries of the body of the sphenoid and basilar portions of the occipital bone, an aperture sufficiently large to allow of the passage of a large bougie is seen to pass into the cavity of the pharynx from the ulcerated cavity in these bones. The same specimen exhibits extensive caries of the bodies of the upper cervical vertebræ, with ulceration of the intervertebral substance, and almost total destruction of the transverse ligament connecting together the atlas and axis.

Mr. T. B. Curling exhibited a specimen of

Spinal Apoplexy.

On May 10th, 1849, a gentleman, 44 years of age, had just got into bed about eleven P.M., when he was suddenly seized with spasms in the stomach, and found that he had lost all sensation and power of motion in the lower half of the body. He was a stout man, of active habits, and rather a free liver. He had been subject to attacks of gout, but otherwise had enjoyed good health. On the day of the attack he had been much engaged in business, and had dined late on calf's head and bacon, which, it was supposed, had disagreed with him. Mr. Curling was sent for, and on his arrival, about twelve o'clock, found the patient shivering in bed, with complete paraplegia of the whole of the body below the third ribs, and strong priapism. He had perfect use of the arms, but complained of pains about the wrists. No excito-motory actions were producible. His mind was quite clear. After the circulation was restored, the treatment consisted chiefly of cupping between the shoulders, a blister at the nape of the neck, purgatives to unload the bowels, frequent doses of calomel, and regular relief of the bladder. The priapism subsided in about twenty-four hours. There was no extension of the paralysis, except a feeling of numbness in the hands, and at last imperfect power of using them. During the first eighteen hours after the attack scarcely any urine was secreted, and it subsequently continued scanty in amount. The breathing gradually became embarrassed and difficult, and the patient died May 14th, at half-past ten P.M., the fourth day after the seizure. His intellect remained unaffected until within a few hours before death.

The spine was opened seventeen hours after death. The muscles of the back were much loaded with blood. No fluid escaped on opening the theca vertebralis, the head being in a depending position. The vessels on the surface of the cord were a good deal congested. An incision was made along the front of the medulla, commencing at the part corresponding to the third cervical vertebra, and terminating at the last dorsal. There were two small clots of blood, amounting together to about a drachm, in the interior of the medulla, occupying about an inch and a half in extent, and situated between the origins of the second and third pairs of dorsal nerves. The substance of the cord around the clots was somewhat soft. The medulla was more or less infiltrated and stained with blood from the site of the clots, upwards as high as the third cervical vertebra, and downwards as low as the last dorsal. No other part of the body was examined.

Dr. Herbert Davies exhibited a specimen of

Melanotic Tumor of the Eye.

The patient from whom the specimen was taken was a man upwards of 50 years of age. The body presented all the appearances of extensive organic disease, and, on examination, almost every organ was found more or less infiltrated with melanotic cancerous matter. The lungs, the pericardium, the muscular substance of the heart, the bronchial glands, almost every viscus of the abdominal cavity, and more particularly the liver, which was enormously enlarged, exhibited patches of melanotic deposit. The bones of the skull, the dura mater lining the right parietal bone, and several of the ribs, were in several spots similarly affected. The right eye-ball formed a large diseased mass, projecting considerably beyond the orbit, and, on section, presented a mass which, on microscopic examination, appeared to consist of partially organized fibrine, the meshes of which included a number of black cancer cells. The deposits in the several viscera exhibited the same cells, but of considerably larger size, many of them including one or more in their interior. The optic nerve of the right offered a marked contrast with the nerve of the opposite side, in consequence of its bluish black appearance and greater softness.

Also a case of

Bronchocele and Enlarged Thymus Gland.

The patient was a well-formed fully developed lad, of 16 years of age, living in the outskirts of London, and a gardener by trade. He appears to have enjoyed good health until a year ago, when he first noticed the swelling in the neck. He suffered very little from it until within four months previous to his admission into the hospital, when the tumor began to enlarge very rapidly, producing considerable difficulty of breathing, but in no way affecting his voice. He had no cough, and complained only of a sense of tightness, and of a sensation as if he were "breathing through a sponge." He died shortly after his admission, apparently partly from the direct impediment to his breathing from the size and weight of the tumor, and partly from spasmodic affection of the larynx.

On post-mortem examination the thyroid and thymus glands were found considerably hypertrophied, the former pressing upon the lower part of the trachea and contracting its passage. The bronchial glands around the roots of the lungs were also much enlarged by a deposit in their structure of a substance resembling crude tubercle. The lungs and other viscera of the body were healthy. On microscopic examination of the thyroid gland, it was found to consist of the vesicles characterizing this vascular gland, containing fluid holding in suspension a large number of cells, the majority of which were smaller than the blood discs. Some were observed of larger size, and distinctly nucleated. None could be found which contained oil.

NEWCASTLE AND GATESHEAD PATHOLOGICAL SOCIETY.

March, 1849.

Mr. Greenhow related the following

Case of Carcinoma of the Stomach and Liver.

M. B., æt. 55, a cook in a private family, where, from her good conduct, she was greatly respected, and had remained twenty-five years. October 5th, 1848, when I was first consulted, I found her person thin, and countenance pale and sallow. She had enjoyed excellent health till a few months ago, when she began to suffer from symptoms of indigestion, with gradual loss of flesh. She complains of pain at the scrobiculus cordis, increased some time after eating, and accompanied with slight tenderness on pressure. Bowels occasionally purged, with pale evacuations; at other times confined. Urine sometimes pale and copious—occasionally turbid and scanty. The symptoms yielded in a few days to suitable remedies, and her health improved: but very soon the same train of complaints recurred with increased urgency, together with nausea, anorexia, and vomiting. In a short time a tumor could be indistinctly felt at the pit of the stomach, which became more distinct as the urgency of the symptoms of indigestion increased; until, in December, I felt satisfied that organic disease of the stomach existed, and advised her to leave her situation, making her employers aware that I believed she was suffering from a cancerous affection of that organ. From this time the symptoms increased in intensity, and she often suffered from vomiting and diarrhœa, the stools being nearly always notably deficient in bile. The ejected matter was seldom bilious, never grumous, but generally of a tenacious mucous character, often quite colourless. As the disease went on, the tumor in the epigastric region become more easily felt and tender, while she complained of very constant pain resembling heartburn. With the exception of opium, no medicine appeared to give relief, or to be tolerated by the stomach. Dr. White, who saw her with me a few weeks before her death, proposed the trisnitrate of bismuth, but it disagreed, producing an increase of all the distressing symptoms—pain, vomiting, and purging. For several weeks milk was the only diet that could be taken, and towards the end of her disease the quantity became extremely small: but by the use of opium or morphia, suffering was kept in check, and sleep obtained, without any tendency to delirium. She died on March 5th, greatly emaciated. On the 6th, about twenty hours after death, the body was examined.

On opening the abdomen, some small hard masses were found in the omentum, perhaps of a truly scirrhous character, but not exceeding small peas in size. The intestines appeared healthy, and free from any signs of inflammation. The liver was generally hard, and somewhat pale on the surface, with several white patches, which, when cut into, proved to be globular masses of carcinoma. These pervaded the entire organ, some being near the surface, others buried deep in its substance, varying in size from that of a walnut to a pea. In texture they exhibited in all a like character, having a nucleus or central mass, whence a fibrous structure radiated to the circumference. The stomach in its whole circumference, for several inches at the pyloric extremity, was in a scirrhous condition. At the smaller curvature the tumor was thicker, and in irregular masses. The mucous membrane was red and injected, but everywhere free from ulceration. The pancreas was healthy, but in near connection with it were found enlarged glands in a state of hard carcinoma. The spleen and kidneys were healthy, and other organs seemed free from disease.

Dr. **Charlton** read the following history of a

Case of Cancer of the Lung.

Nov. 10th, 1848.—The subject of this communication was a gentleman, aged 52, of temperate habits, but who had experienced much anxiety in business speculations. He had suffered for several years from dyspepsia, and from hæmorrhoids, with copious discharges of blood from the bowels. The pulse has been also of late years occasionally intermitting, and he has complained a good deal of dyspnœa on ascending a hill or staircase. About fourteen days ago he was attacked with pneumonia: but many of the characteristic symptoms of this complaint seem to have been wanting. It was apparently accompanied by pleurisy, and the seat of the disease was the back part of the right lung. Two days ago, 8th Nov., when partially recovered from this attack, he came down stairs, and appears to have got a chill, which brought back the pain under the right scapula. Yesterday he coughed up a good deal of blood, and one portion was composed wholly of coagulated blood, and was nearly an inch in length. To-day he still expectorates clear mucus streaked with blood, but the quantity expectorated is small. The piles have not bled for a considerable time. His complexion is remarkably pale and exsanguine; the pulse ranges from seventy-six to eighty four, and sometimes higher. The heart intermits every 10 or 15 beats, and the first sound is accompanied with a distinct bellows murmur. At the back and upper part of the right lung there is almost complete dulness on percussion, with loud tubular respiration, which is occasionally intermixed, *but not masked*, by indistinct mucous râle. The pain during the month of November was rarely felt over the region of the lung, where dulness was detected on percussion: its chief seat was about an inch or two inches below the mamma on the right side; but he occasionally described it as shooting from the spine towards this point. During the month of November the medicines taken were the diacetate of lead; subquently the tinctura muriatis ferri; and lastly, the hydriodate of potass, with and without the infus. calumbæ. All these medicines appeared for a few days to allay the symptoms, but each in its turn seemed to lose its efficacy during a more prolonged trial. External counter-irritation was also kept up freely during the greater part of this month over the affected part. The bowels were generally slow, but great relief was obtained by the frequent use of enemata. On the 24th of November a small attack of pain was experienced a little below the spine of the right scapula. On the application of a blister to that part, the pain abated, but it moved a day or two afterwards to its old position, a little below the right mamma. The pulse again became very irregular, and the nights uneasy, as the extreme dyspnœa prevented sleep. During the whole course of the disease the pulse rarely rose above 48 beats in the minute. The skin was excessively dry and harsh, and the aspect of the patient, as was more than once remarked, was that of a person labouring under malignant disease. The patient, however, did not lose flesh, but continued somewhat fat even to the day of his death. Dulness was found on percussion to exist in the place where it was first detected, but it did not seem to extend or to diminish in the least. Subcrepitant râle was audible beneath the spine of the right scapula, but it was indistinct, and was accompanied with considerable bronchial resonance. The expectoration always continued more or less bloody: it was only once for two days that it assumed a more muco-purulent character. The quantity of blood expectorated in the twenty-four hours was but small, an ounce or two ounces, and often much less. On the 29th of November a quantity of greyish tubercular-looking masses was expectorated, intimately mixed with the currant-jelly-like sputa. A larger mass of the kind which I examined with the microscope seemed to be a portion of the lung, and was certainly not tubercular. The corpuscles constituting the other masses seemed to be larger than the tubercle granules figured by Dr. Bennett. In the beginning of December the dyspnœa became more urgent, and he complained that whenever he lay back in bed, so as to bring the right scapula in contact with the pillows, violent convulsive cough was excited. The extreme severity of the cough-paroxysms had early attracted our attention: they were accompanied with the most violent muscular efforts, similar to those in hooping cough, and like these, accompanied at times with evacuation of the contents of the stomach. The stomach became more irritable about the middle of the month, but the vomiting generally took place under the influence of a fit of coughing. On the 23rd December a large quantity of blood was passed by stool, and the dyspnœa then became less intense, but the patient looked excessively blanched and depressed. The back part of the right lung presented the same signs on auscultation and percussion, but we could now detect mucous râle, though distant and indistinct. Over the right mamma, and below the right clavicle, there was slight dulness on percussion.

On the evening of the 27th the breath was observed to be horribly offensive, presenting the odour of a gangrenous limb. He became now rapidly weaker, and died without delirium or coma, at 4 P.M. on the 30th December. The expectoration was almost entirely absent during the last two days of his life.

Post-mortem 36 *hours after death.*—Temperature 26° F. Body well nourished; about an inch of fat on the abdomen; left lung healthy, save that the air cells appear larger than usual; heart much dilated; the right ventricle nearly twice its ordinary size, and the pulmonary artery was also dilated, though its valves appeared sufficient. Aorta slightly dilated; no ossification or cartilaginous deposit on any part of the valves. The extent of the heart exactly corresponded to that of the dulness over this region observed during life. The right pleura contained about a pint of reddish grumous fluid. Anteriorly the right lung was redder than the left, and felt more solid. At its upper and back part it was very firmly adherent to the costal pleura, and was detached with great difficulty. Most of the adhesions here were dark-red coloured, but extremely tough and firm. On cutting through the very thick pulmonary pleura, the whole of the posterior part of the upper and middle lobes was converted into fungoid cancerous matter of a deep blood-red colour, with numerous soft points and specks of a light drab hue. The whole tissue of the lung appeared to be completely disorganized: indeed, it could hardly be said to exist. In the centre of this soft cancerous mass was a harder clot of about the size of a pigeon's egg, which seemed to be entirely composed of coagulated blood. A collection of red sero-purulent-looking fluid existed at the lower end of the cancerous mass; but, from the broken down state of the lung, we could not ascertain its exact position. It appeared to be encysted, and perhaps had accumulated between the pleural membrane covering the middle and lower lobes of the lung. Close to this was a cyst with rather dense walls, containing about half an ounce of bright yellowish green pus.

The coats of the stomach presented no signs of disease, and the other organs of the body were healthy.

REMARKS.—Cancer of the lung has generally been reckoned among the rarest of those diseases that affect the pulmonary tissue. We believe, however, that in many obscure cases of disease, a careful post-mortem investigation would reveal the fact that this malady is by no means extremely uncommon. This might, perhaps, be especially expected to occur in the instances of phthisis with anomalous and contradictory symptoms which are recorded from time to time in our journals. It is only by the accumulation of cases of the kind before us that we can hope to arrive at a more perfect acquaintance with the diagnosis of this obscure disease. It will be seen that the patient had for some time complained of dyspnœa, and that his pulse had been intermittent. The enlargement of the heart recognised during life, and verified by dissection, arose, in our opinion, from the mechanical obstacle afforded by the diseased lung to the passage of the blood from the right side of the heart. That organ would no doubt become less tense in its fibres as the malignant disease of the lung exercised its debilitating influence upon the constitution; and the right side, meeting with an obstacle in performing its office of forcing the blood through the lungs, would necessarily become dilated. The hæmoptysis did not, we think, proceed from engorgement of the lung by an hypertrophied heart, but it came directly from rupture of blood-vessels permeating the cancerous mass in the right lung. As far as we could ascertain, the hæmoptysis had been one of the earliest symptoms of his malady.

The pleuritic attacks from which the patient suffered from time to time were of a similar character to those which occur in phthisis, only that they were seldom accompanied with much general fever or excitement of the pulse. The pain beneath the right mamma was all along considered to be of reflex character, the seat of the irritation being in the immediate neighbourhood of the affected part. The hæmoptysis —the dulness on percussion of the upper and back part of the right lung—the wandering pleuritic pains—the resonance of the voice, and the distant mucous râle,—all pointed to phthisis pulmonalis. But some of the symptoms generally developed at one period or other of the course of this malady, were altogether absent. Night sweats, hectic fever, emaciation, a rapid pulse, and muco-purulent expectoration, were never observed. The sputa in particular always (except once for about twenty-four hours) retained their characteristic appearance of cherry-red masses intermixed with pure semi-transparent mucus. For a moment the copious expectoration of grey pultaceous looking masses brought back the suspicion of tubercular disease; but an examination, even with my own inferior microscope, satisfied me that these particles were not tubercular. It was then suggested that pneumonic infiltration, of the kind described by Dr. Addison in Guy's Hospital Reports, might occasion the dull sound on percussion; but this would not, we thought, account for the obstinate hæmoptysis. It is extraordinary, indeed, to how small an extent the bronchial mucous membrane seems to have participated in the disease. The side of the chest on which the disease occurred, was not apparently dilated, as in some of the cases detailed by Dr. Stokes. The symptoms that I would look upon as characterising cancer of the lung in this instance, were—

1. The aspect of the patient, which was eminently that of a person labouring under malignant disease, though there was no emaciation; on the contrary, a considerable deposit of fat remained in all parts of the body.

2. The character of the expectoration, which differed materially from that generally observed in phthisis, or in any other disease wherein hæmoptysis occurs. In phthisis, the blood is generally intermixed with mucopurulent matter, or it is frothy, and bright-coloured.

Here bubbles of air were rarely mingled with the jelly-like sputa.

3. The extreme dyspnœa, for which it was difficult to account, as there were no signs of bronchitis. Still more remarkable, we think, was the character of the cough, where such violent and prolonged efforts were required to bring up a single bloody sputum.

4. The persistent character of the signs observed on auscultation and percussion.

5. The absence of night-sweats, and of fever, the pulse seldom rising above 84.

Did we possess a more certain knowledge of the characters of the cancer-cells under the microscope, we might determine by this means alone the true nature of the diseases.

Mr. M'Donnell exhibited the kidney of a child which had been the subject of extensive tubercular disease, and related the following particulars of the case:—R. W., æt. 3, had always appeared delicate, and had frequently been under medical treatment for pulmonary affection. About ten days before applying to the Gateshead Dispensary, the mother observed a hard round tumor on the right side. This tumor was eight inches in circumference, and occupied the anterior portion of the right lumbar region. Percussion and auscultation indicated tubercular disease of both lungs. The child soon sank under this disease, which was aggravated by attacks of pneumonia and bronchitis. On a post-mortem examination the right lung was found completely converted into a mass of suppurating tubercles: the left lung also contained tubercles, some in a softened, others in a crude state. On opening the abdomen, it appeared that the right kidney was greatly enlarged, being four times its natural size, and by its bulk had caused the tumor seen externally. The mesenteric glands were also extensively enlarged and diseased. The left kidney was healthy, but rather increased in size; the other viscera of the abdomen appeared to be in a normal state. The diseased kidney was lobulated on the surface, and on dividing it a considerable quantity of softened tubercular matter escaped: on placing the organ under a stream of water, its interior was seen to be almost wholly composed of pouches or cells, formed by fibrous bands, and containing the morbid deposit.

Mr. Davis, of Wreckenton, briefly mentioned the history and post-mortem appearances of a case of diabetes. The patient, a tall country lad, aged 16, who had previously been in the enjoyment of good health, about three months before his death first complained of great thirst, loss of appetite, and a constant sensation of heat in the stomach. These symptoms were not materially relieved by any medicines, and having rapidly emaciated, he died within two months from the time of his applying for medical assistance. A hasty examination of the body was made about thirty hours after death. On dividing the large blood-vessels attached to the heart, a white fluid, somewhat resembling pus, was seen to be mixed with a mass of blood; and the mesenteric glands were also extensively diseased, several of them being converted into calcareous masses. The other organs of the chest and abdomen did not appear to be structurally altered.

SOUTH LONDON MEDICAL SOCIETY.

April 26th, 1849.

John Hilton, Esq., F.R.C.S. President, in the Chair.

The President placed before the society the larynx of a patient upon whom he had recently performed the operation of laryngotomy. The patient had been seen by Dr. Vallance and Mr. Wright, before his admission into Guy's Hospital.

Dr. Vallance said he had known but little of the case: his attention was called to it on Monday in consequence of the patient suffering from sore throat, and some difficulty of breathing, for which he had ordered him fomentations, and given him aperients and some fever medicine; it appeared he had had hæmoptysis about nine months since, and was not in robust health, and that on the Friday preceding my visit he had been a long time exposed to wet inclement weather, and on the Saturday he was attacked with sore throat and severe shivering: he then applied to a chemist, who gave him medicine, which was continued until I saw him. On Tuesday his difficulty of breathing was much increased, and in the evening of the same day, after some exertion, he was on the point of being suffocated, and then requested the aid of Mr. Wright.

Mr. Wright observed he had been hurriedly summoned, at 7 P.M., to see this man, by a messenger, who merely knew that the patient was dying, or perhaps dead by that time, from suffocation: he found him in great distress from some obstruction in the larynx, and passed his finger into the throat to ascertain if any extraneous body could be felt; the epiglottis was rigid, and vertical in position; it, as well as all the tissues in the neighbourhood, were much swollen; the countenance pallid, mixed with here and there a leaden hue; pulse rapid and irregular; the respiration in the chest scarcely audible; so that although great efforts were made to inspire, a very little air entered the thorax. To relieve him from immediate danger, I cut down upon the trachea, with the intention of opening it; a large quantity of venous blood followed the incision; this appeared to give him so much relief that I did not continue the operation, and advised his being taken to Guy's Hospital.

The President said he saw this patient about 11 o'clock on the evening of Tuesday. The patient had been in the hospital two or three hours, and during that time had had every now and then greatly increased difficulty of breathing, and, on attempting to swallow a little beef-tea, it produced so much distress in the respiration that he was very nearly suffocated. Finding his voice little audible, his dyspnoea very great, and occasionally dangerous to life,—pulse very feeble,—hands and feet becoming cold,—a very small quantity of air entering the thorax at each respiration, — the patient solicitous of something being done for his relief, and believing his life very insecure in his then condition,—I recommended him to have an opening made, through which he might breathe,—to which he immediately assented. A good incision had already been made down to the trachea; the wound was occupied by coagulated blood. On clearing this away with the finger, venous blood flowed rapidly from the deepest part of the wound. This circumstance induced me to elongate the incision a little upwards, that I might introduce the trocar and canula through the crico-thyroid membrane into the larynx, and so avoid the source of hæmorrhage. This was easily accomplished, and the air rushed out of the chest through the canula with considerable force. Immediately on opening the larynx, as usual in such cases, much increased and alarming struggling for the breath took place: this subsided in two or three minutes, and he became quite calm and comfortable, and capable of reclining in bed, which he had not been able to accomplish for many hours previously. The night being cold, his bed was placed before the fire, and enclosed by a screen. He was ordered to have nutritive injections administered during the night, as any attempt at swallowing induced spasm in the throat. There was some swelling and tenderness on pressure at the sides of the larynx towards the pharynx. He passed a good night, free from difficulty of breathing, —the dresser, Mr. Assaid, being in attendance to wipe away the mucus from the canula: had some sleep, and in the morning I found him cheerful, and in every respect improved, except that in making an attempt to swallow some fluid medicine, he still experienced extreme difficulty in deglutition, and some of the fluid returned through the canula. During the day, and towards night, he became feverish: his skin hot; his pulse much quickened; his general distress and restlessness increased to occasional delirium, which persisted, more or less, until early in the following morning, when he somewhat unexpectedly died. The submucous areolar tissue of the whole larynx, as far as the vocal cords downwards, and the epiglottis upwards, was occupied to distension by sero-purulent fluid, so as to bring the opposite sides of the larynx into forced contact at some parts, and leaving but very little interval posteriorly for laryngeal respiration: the same infiltrated condition pervaded the soft parts external to the cartilages of the larynx, and by the side of the pharynx, which explained the swollen and tender state of those parts observed during life. The epiglottis was swollen to very near half an inch in thickness, rigid, erect: the trachea was free from important disease, but the bronchial tubes were occupied by a muco-purulent fluid. The posterior parts of the lungs were much congested with blood and serum, and the effects of recent pneumonia were well marked at several portions of the lungs: the right side of the heart enormously distended with blood; the left side was contracted and nearly free from blood. The post-mortem examination of the parts about the larynx suggested the explanation of the difficulty experienced by the patient in attempting to swallow, and the fact of some of the fluid appearing at the opening in the larynx: it appeared to depend upon a want of right adaptation of the various structures usually occupied in the process of deglutition, and the highly excitable state of the mucous surface, causing spasmodic action of the muscles directly any extraneous substance fell upon it; there can scarcely be any doubt but that if some of the fluid could enter the larynx and appear at the tube, a portion of it could pass down the trachea into the lungs, and there set up considerable mischief; and, indeed, with a condition somewhat corresponding to this patient's, and laryngotomy performed when fluid has passed from within through the external opening. I have, after death, detected some of the same fluid in the bronchial tubes, and I have reason to believe such a cause has not unfrequently produced death by increasing inflammation of the lungs. The preparation explained the cause of the hæmorrhage: when Mr. Wright cut upon the trachea, a large thyroideal vein was opened at the same time; the vein was placed in the median line, close upon the trachea, and could not have been avoided.

A Member inquired, if fed by the stomach-pump, and not allowed to drink, might not life have been prolonged?

President replied, the patient did die not of suffocation,—injections were given to avoid irritating the larynx by the pressure of the probang.

Dr. Hughes said, that from morbid preparations in jars, no person could have a notion of the swelling of the parts immediately after death. In this case the musculo-cellular tissue was infiltrated with pus: do what you would in such case, the probabilities are that the issue will be fatal. Epiglottis so rigid, stiff and swollen, as to be incapable of action, and thus readily allow the fluid to enter the trachea. He considered diffuse suppurative inflammation in the neighbourhood of the neck almost always fatal; but he also thought the operation absolutely necessary, as life otherwise would have been soon extinct.

Mr. Waterworth readily entered into Dr. Hughes' views, that the extensive disease cannot be seen by preparations. The disease here was not merely in the larynx, but in sundry other tissues. He had a case of gangrene in the arms, and saw him in the morning: in the evening he was dying from some disease in the larynx, with great dyspnœa and profuse perspirations: he did not think an operation advisable, as the disease in the arm was extending: he lived for about 36 hours.

The President mentioned, that in experiments on dogs it had been observed they were able to swallow, although the epiglottis had been cut away; and when the epiglottis had been detached in cases of cut-throats, persons have been able to swallow very well small quantities of fluid.

Dr. Hughes said, that as some time more remained for discussion, he would occupy it, and related the following interesting case:—A female servant had low fever, attended with incontinence of urine. She appeared to be doing well, but she could not be kept dry, from the urine constantly dribbling away from the urethra: she was low and depressed, and had slight sloughing of the back; every thing was done to relieve her—air cushions and sponges; an elastic catheter, with an empty bladder attached, prevented the inconvenience during about twenty-four hours, but then the water passed by its sides; a spring pessary in vagina, to press on the meatus urinarius, failed; depression became sudden and unusual, with tension of abdomen and peritonitis; and she died very quickly. Dr. Hughes suggested that, in like cases, the right direction of the urine might be obtained by introducing some threads into the bladder, leaving the other ends hanging into a receiver, so as to employ capillary attraction.

Post-mortem showed several ulcers of the intestines healing. There were positive evidences of peritonitis with lymph. One portion of the ileum was ulcerated, but it was plain the ulceration commenced on its peritoneal surface: on opening the bladder an ulcer filled with adhesive matter was seen; it perforated all its coats, and corresponded with the ulcer of the ileum, both being the result of the pressure of the catheter, no force ever having been used, and the peritonitis being the sequel of the ulcer.

The President considered the case as a most useful lesson, and a caution not to allow a catheter to remain too long pressing upon the same part of the bladder. As this patient was lying on her back in bed, the point of the catheter must have been pressing always upon the same spot; and, in illustration of the bad consequences sometimes following the frequently-repeated contact of the catheter, mentioned the case of a patient, a young man, who had occasion to introduce a flexible catheter several times daily. He did it always in the same way, and himself, leaning with his back against the wall. He became suddenly collapsed, with intense peritonitis, and died in a few hours; and it was ascertained after death that the point of the catheter had touched the same part of the bladder at each introduction. This led to ulceration of the bladder at that spot, and then perforation of the peritoneum, with extravasation of urine into the serous membrane,—and death.

WESTMINSTER MEDICAL SOCIETY.

Saturday, May 19, 1849.

Mr. Hird, President.

New Apparatus for Chloroform.

Dr. Snow placed on the table an apparatus with which he had lately administered chloroform in some cases. It consisted of a hydrogen balloon holding upwards of two thousand cubic inches, which was provided with a tap, and attached to a face-piece, containing valves, by means of a short and wide tube. When used, a measured quantity of chloroform was put into the balloon, which was then inflated with air by a bellows: in this way the exact proportion of vapour in the air breathed by the patient was known, and the effects produced were very uniform. He found that three per cent. by measure of vapour sufficed to induce insensibility in two minutes; and this method of giving chloroform was attended with the further advantage that the vapour was much less pungent and irritating, owing to its being uniformly mixed with the whole of the air. The expired air escaped by a valve, without returning into the balloon.

Larvæ in the Meatus Auditorius.

Dr. ROUTH exhibited to the Society two small maggots, which had come out of the ear of a gentleman. This gentleman held the office of Superintendent in some gold mines in Brazil. Being engaged on a Thursday in October, 1846, in reading, he was tormented by a fly, at which he struck with the palm of his hand, and accidentally pushed it within the meatus auditorius. He was not able to extract it till four or five minutes after, when his daughter succeeded in doing so by means of a small forceps. The fly came out entire, excepting one leg, and alive, and was seen by every member of the family, and recognised to be a musca carnaria, or flesh-fly. On the same evening he began to feel an uneasy sensation in his ear, which went on from bad to worse, until the internal ear became exceedingly painful. The sensation was as if there was something like a gnawing or rasping of the drum. The natives around him stated that maggots had been found in the ear. An English medical gentleman was sent for, who ordered a few drops of a solution of opium in dilute nitric acid, to be instilled in the ear. The pain and gnawing, however, were in no way relieved. On the Saturday, at 4 P.M., he was seized with a convulsion: he moaned terribly, plunged his head in his pillow, bending forcibly the joints, and rolling the eyes; the general character, however, of the spasmodic movements was clonic: the convulsion lasted from seven to ten minutes. The medical gentleman called the same evening with a forceps, extracted a living maggot, and ordered a weak solution of bichloride of mercury to be applied within the ear. The rasping, gnawing, and pain continued. At 11 P.M. the same evening, another convulsion occurring, further medical aid was called in, and, on consultation, it was agreed to apply white precipitate suspended in milk to the ear. This was done, and somewhat relieved the pain; soon after, two other maggots came out alive. On the Sunday morning another convulsion occurred, but much less violent; the same day a fourth maggot dropped out, also alive. From this time all the acute pain subsided, but slowly at first, as a purulent discharge continued to flow from the ear, but which at last yielded to injections and counter-irritants. The patient finally recovered in about six weeks, but had remained deaf in that ear ever since. The case related was very interesting: 1st, as showing the short space of time in which the ova were deposited, the fly not having remained in the ear more than five minutes; 2d, as showing the rapidity in which they were hatched in the ear; 3d, as exemplifying the non-poisonous quality of the cerumen to maggots of musca; and, lastly, as indicating the danger of delay, and the efficacy of white precipitate as a means of cure. Two cases only were recorded in "Cooper's Surgical Dictionary," in one of which convulsions also were present, but in neither was the history of the first deposition of the ova given, which in this case was distinctly traced to a musca carnaria.

Mr. CANTON narrated a case of

Chronic Rheumatic Arthritis

occurring in a man, seventy-eight years of age. The joints affected were the right shoulder and left hip. The former was first attacked in 1805, and the latter in 1826. The symptoms were, continued gnawing and aching pains in the articulations, increased at night, and in damp or cold weather. The deltoid and glutei muscles were wasted, the movements of the joints much restricted, and articular crepitus was perceived during motion. The patient walked lame, from shortening of the left leg. *Autopsy:* The glenoid cavity of the scapula more shallow than natural, in consequence of an expansion of the outer part, due to the deposit of new bone in the glenoid ligament, whereby the surface for articulation of the humerus became unusually broad. The long tendon of the biceps, as it passed through the joint, was considerably flattened, expanded, and divided into four or five slips, placed side by side. This condition of the tendon had permitted the head of the humerus to shift upwards, and thereby to articulate with the under part of the acromion process, in which situation was seen a broad surface, against which the former played; the capsular ligament, however, was intact. The great tubercle of the humerus is flattened, and three of the capsular tendons, at their insertion, partially absorbed. The hip-joint showed the ravages of the disease to have further extended. The acetabulum is much deepened, from bony deposit in the cotyloid ligament; the encrusting cartilage is wholly removed, and at the upper and outer part of the cavity porcellaneous material is deposited in a continuous sheet, and having a high polish. The ligamentum teres is absent. Bony plates are seen in the capsular ligament. The head of the femur is misshapen, its form being in accordance with that of the acetabulum. The cartilage is wanting, and ivory-like deposit is present, corresponding to that in the cotyloid cavity. The cervix femoris is short, horizontal, and at its interior part encroached upon by new bone, which springs from the circumference of the head, and adhered to it in this situation. The cortex is thin, and the medulla abnormally soft and red. The fibrous structures generally of the articulation are unduly vascular. Mr. Canton exhibited various other specimens of the disease in the shoulder, elbow, and hand, also in the spine, hip, and knee, which he had removed from different patients.

Mr. **Hancock** read a paper on

Hernia, and the relative value of operations for its removal.

He said, that having noticed the several objections urged by the advocates of Petit's method against the operation as usually performed, he controverted these objections, and argued, that the danger of the usual operation did not exist in the reasons alleged, but in causes entirely independent of opening the sac; that there was more danger in the proceedings recommended by Messrs. Luke and Gay than in the ordinary method, which, he contended, offered greater advantages, was safer, and presented the greatest certainty of success. His objections to Petit's operation were, that it was not applicable to all cases, and that consequently the patient was exposed to the danger attending error of selection; that in performing operations, it was our duty to select that method which was capable of embracing, as far as possible, all difficulties and modifications which may be met with during such operation, and which it is impossible to ascertain before the operation is commenced; and that we ought to select that mode which holds out the greatest certainty of effecting that for which it is undertaken, and of which, in strangulated hernia, we can never be certain unless the sac be opened. He quoted cases in support of his views, and then passed on to the consideration of the statistics of the two modes of operation, as furnished in the late work on femoral hernia, saying, that in forming an estimate of the relative value of two operations for the same disease, we should base our calculations upon operations performed upon cases as nearly similar as possible, and not confine the one operation to favourable cases, employing the other indiscriminately, and then cast up the successful and unsuccessful terminations without reference to collateral circumstances; and according to this view he analysed the several cases adduced by Mr. Gay, and showed, that after deducting those cases which must have proved fatal whatever operation had been performed, the rate of mortality in the usual method was one in nine, whilst in Petit's operation it was one in seven and a half.

Dr. **Daniell** inquired the opinion of the author of the paper respecting the use of purgatives after the operation for hernia; and also whether the author did not think the bowel was frequently injured by too much employment of the taxis previous to the operation; and whether inflammation and irritation might not result from this cause?

Mr. B. **Travers**, jun., announced his belief that the operation of opening the sac was the best possible proceeding in cases of hernia. He had seen cases in which the sac had not been opened, and the patients had recovered; but he had, on the contrary, seen other cases in which this operation had been said to be completed, but the strangulation was not removed. If for no other reason than this, if in only one or two cases out of a hundred such a mishap could occur, he thought it sufficient to make the operation in question unjustifiable. He could not, as an operating surgeon, appreciate the fear which existed in the minds of some respecting the division of the peritonæum,—he, on the contrary, regarding such section as beneficial, by relieving the congestion which existed, and removing the fluid which had accumulated. He believed it was a rare occurrence for hernia to be fatal from peritoneal inflammation; and when this did occur, it was usually the result of constitutional causes, and the mischief was found to be situated at parts distant from the seat of the operation. He related the following case:—He was called to a fine young woman with all the symptoms of strangulated femoral hernia. Under the influence of steady pressure, exerted over the tumor for about a quarter of an hour, the hernia was reduced, with an audible noise: it was evidently intestinal. Some mild injections were administered after several hours, and she appeared well for about fourteen hours. At that time all the symptoms of strangulation recurred; and at the end of thirty hours from the first seizure she died. The operation of opening the sac had been unsuccessfully performed during the last few minutes of her life. A piece of adherent and sloughing omentum was found at the bottom of the sac.

Mr. **Henry Smith** said that the subject under discussion was still a *quæstio vexata*. It was remarkable that the operation without opening the sac had been so little performed, considering that it was a hundred years old. He thought we were yet in want of a sufficient number of facts to come to any decided conclusion upon the subject, and the difference of opinion which had been lately exhibited on this point proved the justice of his remark. As far as his experience went, in all the cases he had seen in which the sac had not been opened, the patients had died. Still, however, it must be borne in mind, that the arguments against this operation fell with equal weight against the reduction of hernia by the taxis: for this was one way of reducing a hernia without opening the sac, Petit's operation being merely the addition of an external wound. This, among other facts, made him think that the new method of operating had not received that consideration from the profession to which it was entitled. The difficulties of deciding upon the safety of the operation had been shown by Mr. Hancock; but in hospital practice the cases to be operated upon were generally admitted at too late a period to warrant us in returning the gut by an operation which did not open the sac. The state of the contents of the hernial tumor would forbid this. He saw no difference between the operation of Mr. Gay and that of Petit, Key, and Luke, with the exception of the incision being somewhat smaller, and not being made over the tumor. He complimented Mr. Gay on the fairness with which he had brought his operation before the profession.

Dr. Webster made some observations to show that hernia was not, comparatively, a fatal disease.

Mr. Gay, availing himself of the privilege granted to strangers by the president, remarked that his attention had been forcibly drawn to the subject of hernia by the fatality which usually followed hernial operations; and he felt assured that, high as statistical information placed it at, it would, could exact information from every source be obtained, be found to be still considerably higher. To what, then, could it be attributed? Certainly not to the peritonitis which followed operations; for amongst the records of pathology, it appears that in no case examined has the peritonitis been found to be so severe as to justify the supposition that it was alone the cause of death. Besides other causes which could be well understood, such as delay in operating, Mr. Gay considered that the large and deep wounds made in the course of the usual mode of operating were often the cause of death, and especially when the individual is at the same time suffering from disease of remote and important organs, such as the heart, arteries, lungs, &c. With regard to old-standing disease of the heart, from the intimate sympathy which is known to exist between that organ and the peritonæum, it is of the utmost importance that in persons so affected the sac should be allowed, if possible, to remain entire; and that the external wound should be as small as possible. In the cases examined by Mr. Gay, he had found that where hypertrophy of the heart existed, the wound, in all instances, became erysipelatous and sloughy; and Mr. Gay inclined to the belief that this would not have been the case had the sac not been wounded. With regard to Mr. Hancock's remarks, as to his classification together of cases which have little in common, Mr. Gay thought that the post-mortem indications had little to do with the question, since some of these changes appertain to other causes than mere strangulation. The employment of the taxis injudiciously, even during an operation, had, to his knowledge, been productive of fatal results. The question is, in a number of cases of strangulated hernia—What is the predetermined plan of relieving the constriction? and the answer is in favour of those cases in which the sac has not been opened. But Mr. Gay had no preference of the one operation over the other on this account, for it is most probable that the comparatively favourable results of the one system depended really upon something more—viz. the fact that those cases really relieved are by far the most favourable for operation, not in general being so complicated as those in which it becomes necessary to open the sac. Petit's operation is simply the expression of a principle, for which Mr. Gay had endeavoured to obtain the sanction and support of the profession—viz. that of not wounding more tissues, or going deeper with your incisions in a case of strangulated hernia, than is absolutely necessary for the relief of the constricted parts; and especially to avoid interference with the hernial tumor and its envelopes, which are usually in a more or less diseased condition. The lamellar separations or fasciæ in these operations are much to be condemned, and may be dispensed with. They are only made as guides for the operator; but as such they ought not to be continued. Mr. Gay's plan is, if the case appears to be favourable, to divide the structure first outside the sac; and if that does not allow the parts to be returned by the employment of the most gentle compression by the fingers, then the sac is to be opened, and the cause of detention removed, whatever that may be. Mr. Gay recommends and practises a small incision, sufficiently large to admit the finger through the skin and superficial fascia, on the inner side of the hernial tumor, and in such a position that he is able to reach the seat of stricture, and divide it without interfering with the sac, excepting at the point where it is constricted. Mr. Hancock says, that the contents of the sac should be examined before they are returned, for fear of their being replaced whilst some constricting band of false membrane still keeps up the constriction, is in a condition of sphacelus, or actually ulcerated or cut through; and it has been remarked, that in every case the sac should be opened, for the purpose of ascertaining the state of the contents. This doctrine would obviously, as Mr. Smith has justly remarked, oppose itself to the restoration of the viscera by the employment of the taxis alone, were that possible—a plan which no one would venture to abandon. The previous history of the case is always sufficient to throw some light upon the state of the hernialed viscera,—such as the length of period during which hernia has existed; whether it has been kept up by a well-adapted truss, or allowed to remain neglected; whether the patient has had any attacks of peritonitis, previous to the occurrence of strangulation; whether the strangulation be recent, or has existed for several days, &c. Mr. Hancock arrayed Sir Astley Cooper amongst the opponents of Petit's operation. Mr. Gay would remind Mr. Hancock that Sir Astley Cooper had said, with regard to it, that he felt convinced that "this operation will be gradually introduced into general practice, when it has been fairly tried, and found, if performed early, to be free from danger, and attended with no unusual difficulty." In the open operation there is no difficulty in extending the external incision, so as to enable the operator to open the sac, if it be found necessary. Such a case occurred in Mr. Gay's practice, two weeks since. A young woman was admitted into the Royal Free Hospital, with a strangulated femoral hernia. The femoral and Gimbernat's ligaments were divided outside the sac, but the contents could not be returned. Mr. Gay then enlarged the external wound, carrying it across the neck of the tumor; opened the sac; discovered a portion of omentum, and a knuckle of intestine twisted on itself. The neck of the sac was cut, the intestine relieved, but the omentum was found to be adherent to the walls of the abdominal cavity in such a manner that it could not be released. The woman has recovered, and the omentum serves as a natural plug against any future descent.

Mr. Hancock, in his reply, claimed Mr. Smith as his supporter. Nothing could be more conclusive against Mr. Gay's operation than the remarks of Mr. Smith. It had been asked—why not give up the taxis if you gave up this operation? The answer was simple enough. Because the intestine was in a very different state when it could be returned by the taxis than when it required to be relieved of strangulation by operative procedure. He commented on the bad effect of the early exhibition of purgatives, and lauded the use of opiates after operations for strangulated hernia. By Mr. Gay's operation, the stricture might still be unrelieved, and then, as to operating again, surely no judicious surgeon would wish to place his patient in such jeopardy; and yet this was the plan of proceeding Mr. Gay advocated. How were we to know that an adhesion was present by the plan of Mr. Gay, when we could not at once return the intestine? He (Mr. Hancock) remarked that it was impossible to decide this question so long as the sac remained unopened. To prove this, he related a case operated upon at Guy's Hospital by Mr. Cock.

Correspondence.

NOTE ON ALTERED MOVEMENT OF THE RIBS IN RESPIRATION.

Sir,—I am glad to find the altered movement of the ribs in respiration, to which I endeavoured to call the attention of your readers so long since, (in the Gazette for January 1839), is at length beginning to attract notice: for I am sure in children it is at times a really important symptom.

The altered movement alluded to is observable at the moment of inspiration, when the ribs, instead of being drawn outwards by the action of the inspiratory muscles, as in healthy respiration, are, owing to the lesion of the lungs, or obstruction of the primary air-passages, forced inwards or backwards, from the external atmospheric pressure, thus diminishing instead of augmenting the transverse diameter of the thorax. Dr. Sibson, in an interesting paper published in a late number of the Gazette, refers to this state of things, and says, "the same remarkable phenomenon is observed in cases requiring tracheotomy, when the obstruction to respiration in the larynx is extreme:" thus indirectly bearing his testimony to the truth of a statement made by me in the Lancet, for July 1846, in the following words:—"Nor will this symptom (the altered movement) prove of small value, if looked for, and attended to. In croup and laryngitis, it will inform, to a degree, as to the state of the lungs, and assist the surgeon in deciding as to the propriety of tracheotomy being performed. If the altered movement be considerable, the lungs are yet free, and the incision may afford relief; but if with strongly marked bronchial or laryngeal breathing, the ribs are motionless, effusion has taken place into the pulmonary tissues, (augmenting the volume of those organs, while rendering them impermeable to air), and tracheotomy will be in vain."

In the paper you were kind enough to publish in the Gazette, in 1839, this altered movement was mentioned as existing in cases of solidified and shrunken, or carnified lung, occurring in children; and it is singular to me that, though this affection, which I believe I was the first to notice as occurring after birth, has since been ably described by four French writers—namely, by Messrs. Bailly and Legendre, in the Archives de Médécine, and by Messrs. Barthez and Rilliet, in their "Traité des Maladies des Enfants," no mention is made of this which I then believed, and still from every-day experience—for the cases are very common—am persuaded is *the* characteristic symptom.—I am, sir,

Your obedient servant,
GEORGE A. REES, M.D., Lond.

2, Artillery Place, Finsbury Square,
24th May, 1849.

REMARKS ON DEAFNESS ARISING FROM DISEASED TYMPANUM; AND ON THE USE OF GLYCERINE.

SIR,—Mr. Yearsley has lately recorded some very interesting cases of recovery from deafness, when the tympanum was partially destroyed, by the introduction of "a pellet of moistened cotton-wool gently pushed down the meatus with the point of a probe."

Mr. Yearsley states that the application is necessary to be renewed daily, in consequence of the pellet of cotton-wool becoming dry, which it does generally in twenty-four hours.

This great inconvenience I have found is much done away with by the wool being moistened with glycerine alone, or diluted with water. The glycerine possesses the peculiar property of attracting moisture from the air, and keeping the wool moist for a length of time, thereby rendering it unnecessary to have it frequently changed.*

Another method that I have practised in cases of fractured or perforated tympanum for the last ten years, and I think with great benefit, is by dropping ten drops of glycerine into the ear, or a solution of glycerine and water of equal quantities, causing the patients to lay their heads down upon the contrary side for the space of about five minutes; and two or three times when in this position, causing the patient to make a forcible pressure of air against the cheek, at the same time compressing the nose with the fingers. The air will then be forced out of the ear through the eustachian tube, and all that is required in general is to repeat this as often as the deafness shall return. I have had some cases that did not require a second application for several months. One case was a barrister from Edinburgh, who consulted me in 1839, and who previously was enabled to carry on his profession as a barrister by filling a small quill with saliva, and when he became deaf, pressing it gently into the meatus, leaving the fluid. By this means he established a tolerable state of hearing. Other cases previous to my becoming acquainted with the utility of glycerine, were benefited by warm oil of almonds instead of glycerine.

I would desire to add, that in all cases of deafness, hearing will be generally obtainable to a considerable extent, when the patient is capable of hearing distinctly a watch when pressed upon the temporal bones. The application of glycerine I have confined to cases of fractured tympanum, but it will be found a most valuable medicine for the protection of the membrana tympani, &c., from the air in almost all cases where there is a deficiency of ceruminous discharge.—I am, sir,

Your obedient servant,
A. TURNBULL, M.D.

16, Manchester Square,
May 22nd, 1849.

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* Glycerine does not undergo any change by keeping. It does not ferment like other syrupy liquids.

Medical Intelligence.

THE CHOLERA IN PARIS.

OUR intelligence from Paris is up to the 29th May. There is at present nothing to indicate that the cholera is really decreasing in the number or fatality of its attacks.

Up to the 28th May there had been in the hospitals 6529 cases and 3475 deaths. In the city itself there had been 2885 deaths. On the 23d May there were in the city 81 deaths, and on the 24th 144 deaths!

THE CHOLERA IN RUSSIA IN 1849.

THE latest accounts from St. Petersburgh give the returns of cholera for the present year up to the 6th of May. These returns are looked to with some anxiety, as appearing to indicate a coincidence between the present and former visitation of the epidemic, as showing its tendency to recommence with severity after the first attack was thought to have ceased. According to these official announcements, the recent fatality of the disease is as great as it was before the period of its decline. From the beginning of the present year up to the 5th of May, a period of 18 weeks, there have been 2,384 cases and 1,207 deaths; but during the last month there has been a very marked increase. The numbers for the five weeks ending the 5th of May, are 1,280 cases and 580 deaths, or about equal to the numbers for the preceding 13 weeks. Many persons of respectable condition and of high rank in society have been carried off by this last attack. The total numbers in St. Petersburgh, from the commencement of the epidemic, are reported to be 21,812 cases and 12,198 deaths; but there is reason to believe that the actual amount of the attacks has been much greater.

ON THE ADMISSION OF SHOPKEEPERS AS SURGEONS TO HOSPITALS AND DISPENSARIES—RESIGNATION OF THE MEDICAL OFFICERS OF THE SOUTH LONDON DISPENSARY.

To the Governors of the Royal South London Dispensary.

MY LORDS, LADIES AND GENTLEMEN,—In resigning the office of Surgeons to your Institution, we feel it our duty to place before you the causes which have induced us to come to this determination, in order that you may exonerate us from the imputation of forming too hasty a decision.

A principle of excluding from the Medical Staff of the Institution all vendors of quack or patent medicines, or those keeping an open shop, having been uniformly acted upon and enforced within the last three years, we were surprised to find that, at a Meeting of the Committee, held on the 3d inst. for the admission of candidates to a vacant appointment, it was broken through.

Wishing to uphold the respectability of the Charity and of our profession, we felt it our duty to convene another meeting, and enter our protest against such innovation. Much to our surprise we found that it was confirmed, and the election is to proceed. Under those circumstances it became an impossibility that we could continue to hold office, as by doing so we should be tacitly giving our consent to a principle which did not agree with our ideas of professional respectability, or in any way tend to raise the character of the Institution.

We have the honour to remain,
My Lords, Ladies and Gentlemen,
Your most obedient servants,
SAMUEL OSBORNE,
JOHN WOODS,
CHARLES LINTON ALEXANDER,
H. JOHNSON,
PETER BERRELL.

N.B. A General Meeting of the Governors has been advertised to take place on Tuesday, the 17th inst., at 12 o'clock.

(*Copy of Protest.*)

April 11th, 1849.

GENTLEMEN,—A certain principle having been universally adhered to in the election of your medical officers—namely, the ineligibility of gentlemen keeping an open shop for the sale of drugs, &c., which principle was adhered to and enforced by a guarantee at the last contested election, and under the influence of which principle the whole of your medical staff have undertaken the duties of their several appointments:

It is therefore with much sorrow that we, the undersigned, comprising the whole of your medical officers, feel it to be our duty to protest most respectfully but most earnestly against the vote of the majority of a committee assembled April 3d, 1849, abrogating this old established principle; and in accordance with this protest we respectfully solicit the members of the present committee to consider the construction and meaning of the 27th Rule, and to favour the medical officers with their decision on this contested point.

(Signed)
SAMUEL OSBORNE,
WILLIAM WOOD,
HENRY JOHNSON,
CHARLES LINTON ALEXANDER,
PETER BERRELL.

To the Committee of the
Royal South London Dispensary.

(*Copy of Resignation.*)

April 11th, 1849.

GENTLEMEN,—As it has been deemed advisable to abrogate an old established principle, which has been uniformly adhered to in the election of your medical officers, we the undersigned, comprising the whole of your medical staff, feel it to be inconsistent with the duty we owe to our profession to retain, under these circumstances, the appointments with which we have been severally entrusted: we therefore respectfully beg leave to resign those duties which have been for some time past committed to our charge. In so doing, gentlemen, we cannot but express our regret that the necessity for such a step should have occurred, more especially as we believe that the character of this and similar institutions depends in a great measure on the status and zeal of the medical officers, and we most sincerely hope that the appointments which we now resign into your hands will be found not to have suffered either in character or importance during the time they have been entrusted to our care, for in this, as in all other matters connected with your Institution, we have been actuated by one principle alone,—namely, the most earnest desire to perform our duty. (Signed)
SAMUEL OSBORNE,
WILLIAM WOOD,
HENRY JOHNSON,
CHARLES LINTON ALEXANDER,
PETER BERRELL.

To the Committee of the
Royal South London Dispensary.

CASE OF MR. T. R. TATHAM, MEDICAL OFFICER OF THE HUDDERSFIELD WORKHOUSE.

In the early part of the year 1847, it is well known that fever of an infectious and fatal type set in with great virulence in the north of England, and that great numbers suffered from the infection in Liverpool, Manchester, and Leeds; Huddersfield was also visited by the scourge. At that time Mr. T. R. Tatham was Medical Officer of the Huddersfield Workhouse; but the cases of fever accumulated in the town to a degree that rendered it necessary to open a temporary Fever Hospital, for the treatment of these cases alone. Attendance on this hospital had not been provided for in Mr. Tatham's contract with the Guardians of the Poor; but as soon as it was opened, Mr. Tatham was specially requested, by the Relieving Officer of the district, to attend it. That request Mr. Tatham unhesitatingly complied with. He attended from the opening of the hospital to its close. He had in this hospital 160 cases of infectious fever; 57 other cases of typhus to attend in other parts of the town; and general cases of sickness in addition. Of these 160 cases in the hospital, 77 were removals from other medical districts, by the guardians themselves; and for his attendance at the hospital generally, and for these 77 cases in particular, Mr. Tatham claimed compensation of the Guardians to the amount of £106. 3s. 6d. That compensation the Guardians at first wholly refused.

In this case, Mr. Tatham appealed to the Poor Law Commissioners, making them acquainted with the facts; and the Commissioners, in a letter to Mr. Tatham, (a copy of which they forwarded to the guardians), said that "it would be inequitable to hold that Mr. Tatham ought to attend the temporary fever hospital, under his contract,"—that "if the Guardians would consent to award such extra remuneration as was justly due for the extra services he had performed, they [the Commissioners] were prepared to consent to the payment,"—and "that if the guardians declined to award such extra payment, it was open to Mr. Tatham *to take legal proceedings to enforce his claim, if he was so advised.*" That extra remuneration the Guardians did decline to grant, and Mr. Tatham had to resort to law. After proceedings had been taken, the Guardians appealed to the Commissioners to know if they could legally defend the action out of the funds of the Union; and while the Commissioners withheld all opinion on the question asked, they recommended that the matter in dispute should be referred to Mr. Austin, the Poor Law Inspector, for settlement. That recommendation Mr. Tatham closed with. His Solicitor apprised the Guardians that he agreed to do so. That gentleman also repeatedly tried to get the hearing arranged for, under a proper deed of arbitration, but unsuccessfully. Seven weeks were spent in these fruitless efforts. The very last meeting of the board, before the expiration of term time, was waited for, before proceedings were recommenced: and then, when all efforts for a peaceable and amicable settlement had failed, declaration was filed and the case proceeded on to trial. At the trial it is now well known how Mr. Tatham's case was met. It was not denied, or attempted to be denied, that the work had been performed; it was not alleged, or attempted to be alleged, that the sum sought as compensation was excessive: but it was pleaded that there was no *written order* of the Guardians on their resolution book, directing him to attend the Fever Hospital; *and that therefore he had no claim for compensation.*[*]

The facts of the case are these: the hospital was taken by a portion of the Guardians, and a portion of them also instructed Mr. Tatham to attend. Those Guardians reported to the general body, at their next meeting, what they had done, and its propriety was unanimously acquiesced in. *But no entry of that acquiescence was made in the minute book of the board.* And because this had been neglected at the time, the Guardians pleaded their own neglect, and thereby defeated a just and equitable claim.

⁂ At an influential meeting recently held in reference to the case of Mr. Tatham, and the hardship with which he had been treated, the following resolutions, which must be highly satisfactory to his feelings, were moved, seconded, and carried by a large majority:—

"That this meeting begs to accord its best thanks to Mr. T. R. Tatham for the manner in which he has maintained the right of the poor to efficient medical relief, in the hour of danger and affliction. By so doing he has, it is conceived, maintained the true interests of the ratepayers, asserted the just claims of his profession, and given the poor cause to be grateful that their lives had been entrusted to such considerate and humane hands: and further, that this meeting, sympathising with Mr. Tatham for the extremely hard treatment he has experienced at the hands of the Guardians of the Poor, resolves 'that the Overseers of the Poor memorialize the Poor Law Board, in the name of the ratepayers of the Huddersfield township, urging that they will be pleased to direct that the Guardians of the Huddersfield

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[*] No Corporate body can be legally bound except by a resolution entered in their own books.

Union fully recompense Mr. Tatham for his extra services and great risk of life, incurred in attending the fever hospital, and also reimburse the expenses attending the prosecuting his just claim, out of the funds in their charge.' "

We regret to learn that the total expenses and losses incurred by Mr. Tatham in this affair, amount to £400. An appeal has been made to the inhabitants of Huddersfield to raise a subscription, in order to indemnify him for this serious loss in vindicating the rights of his profession. We trust this appeal may be successful. The Guardians, in resisting this just claim on the part of their medical officer, have not shown themselves great adepts at economy, as the following paragraph will prove :—

> Mr. Tatham's claim for extra services was £106. 3s. 6d. At the suggestion of Mr. Baron Alderson, who, on the hearing of the case, acted a most noble part, he has been paid £40. The defence of the action has cost the Huddersfield Union £119. Had the £106. 3s. 6d. been paid in the first instance, which ought to have been done, there would have been a saving to the Union of £53.

While they have irretrievably damaged their character for liberality and justice, they have spent in *law*, to the injury of the Parochial funds, *fifty-three pounds* more than the amount of Mr. Tatham's claim! On the other hand, they have the *dis*satisfaction of knowing that while they have brought on themselves a loss, they have unjustly inflicted a heavy loss on their medical officer.

MACCLESFIELD MEDICO-ETHICAL SOCIETY.

We are informed by a correspondent that a Medico-ethical Society has been established at Macclesfield, Cheshire. It is on the same principle as that which has been for some time in operation at Manchester. The rules are, with the exception of some slight modifications, the same. The Society includes all the legally qualified medical practitioners (about fifteen) who are resident in the town. There is no doubt that the extension of these societies will be productive of much good. A man eager for practice may care little about violating professional courtesy, and giving some just cause of offence to one brother practitioner; but when he is made to know and feel, that in offending *one*, he is bringing on himself the unpleasant consequences of giving offence to the whole of the profession in the neighbourhood, he will be guarded in his conduct, and carefully act on the principle *sic utere tuo ut alienum non lædas*.

THE OFFICE OF CORONER AND THE INEFFICIENCY OF INQUESTS CONDUCTED BY ATTORNEY-CORONERS.

[The following admirable letter has been addressed to the Coroners of South Lancashire, North Cheshire, and the city of Manchester, by the Manchester Medico-ethical Association :—

Manchester, May 14th, 1849.

GENTLEMEN,—We, the undersigned members of a committee appointed by the Medico-ethical Association of Manchester, to consider the relations subsisting between the office of coroner and the medical profession, most respectfully solicit your attention to the following remarks :—

We assure you of our sincere desire that this communication may be received in a friendly spirit. We have no party or professional ends in view; but believing that the members of the medical profession, from the nature of their daily pursuits, are qualified to express an opinion, the Medico-ethical Association feel justified in drawing your attention to certain points connected with coroners' inquests, which bear upon the public welfare.

The association considers the performance of this duty, on their part, to have been rendered the more imperative by the recent publication of some statements in the editorial article of the *Manchester Guardian* newspaper, of March 17th, calculated to mislead the public, and in some measure to restrain you from the right discharge of your professional duties.

Medical men have frequently had to deplore the imperfect character of the evidence, upon the strength of which juries have returned their verdicts. Sometimes the latter have decided as to the cause of death, in cases where experienced practitioners have entertained great doubts; in other instances, they have come to decisions the reverse of those which would have been arrived at by members of the medical profession,—errors that might have been avoided had properly informed medical witnesses been consulted.

The article in the *Guardian* newspaper proceeds on the assumption that, because, in the eight years from 1839 to 1846 inclusive, medical evidence was taken in the borough of Manchester only in twelve per cent. of the inquests held, therefore in no larger proportion was such evidence necessary.

This assumes what we cannot grant,—that

the practice hitherto followed is the correct one. The article refers, in justification of the assumption, to the decision of some members of the corporation, officially appointed to investigate the practices in coroners' inquests; but we are not informed who these individuals were, or how far it was possible for them to obtain the requisite information in order to arrive at a trustworthy conclusion.

The truth is, that the insufficiency of the medical evidence afforded to juries has long been a recognised fact on the part of medical men; cases have repeatedly occurred where the latter have been acquainted with important information of which the jury were suffered to remain ignorant.

These are matters of which no post-facto commission, searching merely into the recorded depositions, could obtain a knowledge. The experience of medical men has satisfied them that there exists a necessity for a considerable change, if the security of the public and the ends of justice are to be adequat ly provided for. We unhesitatingly affirm that medical evidence is necessary in a much larger proportion of instances than has hitherto been obtained; and that, consequently, the data supplied by the *Guardian* newspaper cannot be relied on.

We are aware that the primary object of coroners' inquests is to ascertain whether the death of the deceased was the result of natural or of violent causes, and not an inquiry into the real cause of death. But it must be remembered that in perhaps the majority of cases, a knowledge of the true cause of death constitutes the only safe ground upon which a decision can be formed, whether death was the result of natural or of violent agencies.

We beg to support the preceding statements by a few illustrations.

The most conspicuous class of cases is that in which the verdicts returned are "Natural death," "Found dead," and "Died by the visitation of God."

The principle hitherto acted upon in this class, appears to have been that of suspecting nothing, unless a strong primâ facie ground for suspicion existed; and, therefore, during the eight years previously referred to, medical evidence was sought for in only about 20 per cent. of such cases.

We submit that the opposite plan would better protect the public, namely, to take nothing for granted, but rigorously to investigate every case in which there was not the clearest evidence of the natural character of the death. Unhappily many facilities exist for the commission of capital crimes, giving the designing criminal an advantage over his unsuspecting victim; the means of destruction are subtle, and the knowledge of them in the present day widely diffused. The discovery of their having been employed is so frequently the result of trivial and apparently accidental circumstances, as to afford ground for the apprehension that murder escapes detection more frequently than the public imagine; that the criminal conceals his iniquity by such a disposal of his victim, as may lead to the inference that death has been the result of a natural cause. A full investigation of all such cases will alone diminish the chances of escape, and check the secret commission of murder, by increasing the attendant risk to the murderer.

Another class of cases is the one comprehending death from drowning, in the inquests upon which, it is stated that an average of about three per cent. only, present a necessity for medical testimony. Few cases really require a more careful investigation. A body is taken out of the water; was it immersed when living, or after death? Did the individual throw himself in, or was he murdered, and afterwards cast in for the purpose of concealment?

These are amongst the difficult questions of medical jurisprudence. Juries unaided by medical testimony, in 97 per cent. of the cases in the borough, have found no difficulty in regard to them!

The same remarks apply, in a degree, to death from hanging. Was the body living or dead when first suspended? There are pathological signs, which, though not infallible, assist in arriving at a decision on the point. According to the practice followed for some years in the borough, juries may dispense with such evidence in every case. As a principle, the necessity for it has been disavowed; and, consequently, it has been easy for a criminal to hide his crime, by making his victim an apparent suicide.

As further illustrations, it may be mentioned, that, during these eight years, two-thirds only of deaths from poisoning, and one-half of deaths from drinking, received medical investigation. It may be confidently affirmed, that, in every case of death from these causes, medical evidence was necessary.

The further enumeration of examples is needless; though many more might be cited, the above are sufficient to prove the necessity for conducting inquests with more regard to the opinion of competent medical witnesses.

Another topic connected with the preceding is the desirableness of more frequent post-mortem investigations. Examining the interior of the body is often the sole means by which a knowledge of the cause of death can be obtained,—in many instances nothing can supply its place. Indeed, its importance is such, that the Registration Act requires cases so examined to be specially distinguished in the registrar's reports.

Inquests have been held, where medical witnesses have expressed their inability to form a definite opinion without a post-mortem examination; and yet the opportunity of making it has been withheld, and juries have been denied this description of evidence. Verdicts returned under such circumstances must surely be worthless.

The infrequency with which the testimony of medical men has been made available in coroners' inquests, has mainly resulted from economical motives. Economy as a principle is right, but ought ever to be subordinate to the higher principle of justice, which must be satisfied, cost what it may. It is true that the latter should be sought in the cheapest way compatible with the accomplishment of its object; but it must not be forgotten that apparent economy is not always real. The frequency of crime, and the expenses of its prosecution, are proportionate to the facility with which the criminal escapes detection. Hence, if an imperfect investigation of cases be habitual, that facility of escape will be augmented; crime will increase, and the country will be burdened with the cost of more numerous prosecutions.

Influenced by the views above stated, we respectfully solicit your attention to these several topics, believing that your care for the due discharge of the duties of your honourable office will induce you to give to them the consideration which we believe they merit, and that you will employ the discretionary power with which you are largely and properly invested, in the way in which you conceive will most conduce to the detection of crime, and the preservation of the lives of your fellow beings.

We are, sir, your obedient servants,
John Roberton, Chairman of Committee; Richard Flint, Stockport; Daniel Noble; James Bower Harrison; William Crawford Williamson; Richard Allen; John Aikenhead.

MEDICAL APPOINTMENT.

Dr. Henry Lang, M.B., of the University of London, was elected on Thursday to the office of Physician to the Westminster General Dispensary, Gerrard Street, Soho, vacant by the resignation of Dr. Child.

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 31st of May, 1849:—Edward Pilkington, Henbury, Cheshire—Henry Taylor, Bury, St. Edmunds—Sampson Kingsford Burch, Canterbury—Robert Jackson, Scotland—Joseph Brigstock Sheppard, Witney, Oxon—Henry Thomas Parke, Horncastle, Lincolnshire.

A NEW TREATMENT OF CATARRH. BY JOHN A. LOCKWOOD, M.D., SURGEON, U. S. NAVY.

For nearly a year I have pursued a plan of treatment in catarrh, which, in numerous instances, unfailingly relieved its initial symptoms almost immediately. It is adapted to its earliest stages, when the mucous lining of the nasal cavities is dry, tumid, and red, accompanied with a feeling of heat, fulness, and itching of the part.

The remedy consists in the application of a solution of nitrate of silver to the Schneiderian membrane. It is best applied with a camel's hair pencil. The strength of the solution should not be less than eight grains of the salt to one ounce of distilled water. I ordinarily employ a solution somewhat stronger—ten grains to the ounce.

The application is not painful, nor even disagreeable. Its immediate effect is to excite a copious serous effusion, which continues for some minutes. After this the nostrils are freed from the previous impediment to the passage of the breath through them, when the sensation of relief becomes at once manifest. With the subsidence of the local swelling, the general heaviness and *malaise* disappear. For some minutes, the inhalation of cold air communicates to the mucous lining of the nose a feeling of rawness. This, however, is of short duration, after which, unless the inflammation has extended beyond the Schneiderian membrane, the cure is complete.

To accomplish a radical cure, the solution should be applied at the very commencement of the attack. When the inflammation has extended to the pharynx, &c. it is no longer practicable to subject all the parts affected to a treatment which is mainly local. I have, however, applied the remedy in many cases where the disease had made several days' progress. Then, although no expectations were entertained of removing any symptoms of bronchial irritation which might have supervened, the relief to the head was always satisfactory, by the liberty it afforded to the passage of air through the nostrils.

M. Deschamps, in the *Gazette des Hôpitaux* for October, 1847, recommends snuffing up the nostrils every two hours a solution of opium in water, as an effectual cure for coryza. This method I have not tried. Before reading an account of it, I had for several months employed the nitrate of silver with such happy results that I was indisposed to seek for any better plan. The insufflation of ardent spirits will often check an incipient catarrh, but the remedy is unpleasant and painful.—*American Journal of Medical Sciences*, January 1849.

BOOKS & PERIODICALS RECEIVED

FOR REVIEW

DURING THE LAST TWO WEEKS.

- Essay on the Use of Alcoholic Liquors in Health and Disease. By John Chadwick, M.D. &c.
- A Practical Treatise on Inflammation of the Uterus and its Appendages. By J. H. Bennet, M.D. &c. Second Edition.
- The British American Journal of Medical and Physical Science. May 1849.
- Objections to the Indiscriminate Administration of Anæsthetic Agents. By W. F. Montgomery, A.M. M.D. M.R.I.A.
- Journal de Chimie Médicale. Mai 1849.
- Comptes Rendus. Nos. 18 and 19; 30 Avril and 7 Mai 1849.
- Proceedings of the Westminster Medical Society. Session 1848-9.
- Philadelphia Medical Examiner. February, March, and April, 1849.
- The American Journal of Dental Science. January 1849.
- Portraits of the Diseases of the Scalp, &c. By W. Cooper Dendy. (2 Nos.) No. 1.
- System der Physiologie, von C. G. Carus. H. 7 and 8.

A Speech delivered in the House of Commons on the Second Reading of the Bill for altering the Law of Marriage. By Roundell Palmer, Q.C.

⁂ A very clever speech, upholding, what we think, is the wrong side of the question:—but, as the subject is wholly foreign to the pages of a medical journal, we must refer those who are interested in the matter to the pamphlet itself.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, May 26.

Births.		Deaths.		*Av. of* 5 *Spr.*	
Males....	685	Males....	456	Males....	494
Females..	626	Females..	441	Females..	469
	1311		897		963

CAUSES OF DEATH.		*Av. of* 5 *Spr.*
ALL CAUSES	897	963
SPECIFIED CAUSES	896	959
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*	233	198
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	47	48
3. Brain, Spinal Marrow, Nerves, and Senses	122	128
4. Heart and Bloodvessels	29	39
5. Lungs, and other Organs of Respiration	139	131
6. Stomach, Liver, and other Organs of Digestion	51	62
7. Diseases of the Kidneys, &c.	12	11
8. Childbirth, Diseases of the Uterus, &c.	6	8
9. Rheumatism, Diseases of the Bones, Joints, &c.	5	8
10. Skin	2	1
11. Old Age	27	50
12. Sudden deaths	9	11
13. Violence, Privation, Cold, &c.	27	28

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	8	Convulsions	41
Measles	29	Bronchitis	55
Scarlatina	34	Pneumonia	61
Hooping-cough	60	Phthisis	163
Diarrhœa	19	Dis. of Lungs, &c.	9
Cholera	5	Teething	10
Typhus	43		
Dropsy	15	Dis. of Stomach, &c.	6
		„ Liver, &c.	11
Hydrocephalus	24		
Apoplexy	28	Childbirth	5
Paralysis	31	Uterus	0

REMARKS.—The total number of deaths was 66 *below* the weekly spring average.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 29·81
„ „ „ Thermometer[a] ...... 56·9
Self-registering do.[b] .... Max. 97·2 Min. 38·

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 1·37.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 2°.9 above the mean of the month.

NOTICES TO CORRESPONDENTS.

The case of the Naval Assistant Surgeons shall not be lost sight of.

Communications have been received from Dr. Robert Elliott—Mr. John Grantham, Crayford—Mr. F. Le Gros Clark—Dr. P. Murphy—Mr. W. F. Barlow—Dr. W. Reid—Dr. E. Skiers—Mr. Herbert Williams. They will be inserted with as little delay as possible.

RECEIVED.—Dr. Jeaffreson—Glasgow Examiner.

THE GENERAL INDEX.

We have to announce to our Subscribers that a GENERAL INDEX to the *first* 40 *Volumes* of the LONDON MEDICAL GAZETTE will, it is calculated, form a large Volume of about 700 pages. The cost of the INDEX VOLUME, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. WILSON AND OGILVY, 57, Skinner Street, will receive the Names of Subscribers.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

By Bransby B. Cooper, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture LVI.

DISEASES AND INJURIES OF THE VASCULAR SYSTEM—*continued.*

True Aneurism—*definition of—Progress of the disease—Diagnosis.*

Internal Aneurism—*Aneurism of ascending aorta—symptoms and diagnosis—Aneurism of the arch of the aorta—symptoms—Effects on surrounding tissues—Diagnosis by auscultation—Aneurism of abdominal aorta—its first indication—symptoms—case—may form a tumor in the loins resembling physically lumbar abscess—Fatal termination of internal aneurism—depends upon the organ into which the hæmorrhage occurs—Treatment of internal aneurism can be only palliative of symptoms—cases.*

External Aneurism—*Diagnostic signs—More than one aneurism sometimes found in the same individual—cases—Period of life most obnoxious to aneurism—table—Spontaneous cure—how effected by nature—cases.*

Wounds in Arteries—*classification of means of arresting hæmorrhage—by styptics, tension, compression—cases.*

True aneurism.—A true aneurism may be defined as a pulsating tumor communicating with the interior of an artery, and containing coagulated blood; the latter circumstance arises from the lesion of the internal coat of the artery, the function of which seems to be to maintain the fluidity of the blood: when, therefore, any morbid change takes place in the lining tunic, or it becomes ruptured, the point of lesion is filled by a coagulum of blood, and the aneurismal condition thus takes its commencement. The quantity of coagulated blood progressively increases by the deposit of fresh portions of fibrine, which are deposited in concentric laminæ: this mass presses upon the fibrous coat of the artery, and constitutes a small pulsating tumor, the size of which depends upon the extensibility of that coat: fresh deposits take place within the artery, and the middle coat becoming ultimately stretched beyond its power of resistance, gives way, and the external coat is alone left to constitute the sac of the aneurism: this elastic coat of the artery continues to yield to further depositions of coagulum as long as its physical power is retained; indeed, it becomes in some degree strengthened by a deposit which is formed on the outside of the sac, in consequence of the irritation excited by the pressure. The progress of the disease remains, however, unchecked, for the deposit of fibrine is still constantly going on within, until, finally, the external or elastic coat of the artery gives way by absorption; the deposited adhesive matter now constituting the only boundary to the aneurism: but yet the disease continues to advance—tissue after tissue is interstitially removed; even bone can oppose no effective barrier to the destructive influence, and after a while the skin alone remains intact; this, in its turn, gives way: repeated hæmorrhages occur, and the patient dies from the effect of loss of blood on the constitutional powers.

Sometimes it happens that the blood coagulates so firmly and rapidly within the sac as to cause its obliteration, by exciting inflammation in the artery on the proximal side of the aneurism, which, leading to adhesion of the sides of the vessel, destroys it as a means of circulating the blood, and the aneurism is therefore spontaneously cured.

Diagnosis.—The power of forming a correct diagnosis in a case of aneurism must depend in a great measure upon the situation of the tumor—as to whether it exists within the cavities of the trunk, or in the extremities or neck; the facility in diagnosis depending upon the proximity of the tumor to the surface, for when it exists within the cavities its presence is rather indicated by its interference with the functions of some important vital organ, than from its own physical characters, which are, indeed, from the depth at which the disease is placed, beyond investigation.

INTERNAL ANEURISM.

Aneurism of the ascending aorta.—This aneurism is generally first suspected in consequence of its pressing on the superior cava or pulmonary artery: if on the first, it interferes with the return of the blood from the head and neck, producing a livid suffusion and œdema of the face; while if the pressure be on the pulmonary artery, the function of respiration is much impeded. In this aneurism the symptoms are sometimes very similar to those in disease of the heart: the pulse being feeble and intermittent, and often attended by an irregular action of the heart itself, with a sense of constriction across the chest.

Arch of the aorta.—When this is the seat of aneurism, the tumor soon becomes ob-

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vious by its extending itself upwards, towards the upper extremity of the sternum, so that the pulsation may be felt in the lower part of the neck: as the swelling increases in size, however, it presses backwards on the trachea, offering an impediment to the passage of the air, and giving rise to a degree of dyspnœa and alteration in the voice highly characteristic of the disease: if the aneurismal dilatation be situated to the left of the centre of the arch, dysphagia will form a prominent symptom, owing to the pressure of the tumor on the œsophagus; and should the pneumo-gastric nerve be at the same time involved in the pressure, difficulty of breathing and dyspepsia would also be characteristic features of the complaint. When any portion of the thoracic division of the descending aorta is the seat of aneurism, the symptoms are very obscure, and may be mistaken for those of phthisis: cough being invariably present, produced by the pressure of the tumor on the lung. A diagnosis may, however, be formed from the circumstance that in aneurism nothing but frothy mucus is expectorated; while in phthisis, pus is mixed with the expelled fluid. The tumor may also interfere with the functions of the thoracic duct, thus leading to marasmus; or it may press on the vena azygos, in which case the muscular actions of the thorax would probably be interrupted. As the tumor increases, the pressure sometimes produces interstitial absorption of the dorsal vertebræ and ribs, so as to permit of the extension of the morbid mass towards the surface of the back, not unfrequently inducing paralysis below the diseased part, in consequence of the pressure on the spinal marrow. The presence of the symptoms detailed would necessarily give rise to an examination by auscultation, when it would be found that the pulsation was attended by a bruit which would probably lead to the formation of a just diagnosis.

Aneurism of the abdominal aorta.—This aneurism is usually at first indicated by disturbance of the function of some of the important vital organs contained within the cavity of the abdomen. From the size of the aorta, it being in fact the great systemic trunk, when any portion of it becomes the seat of aneurism there is a tendency to sudden faintness under exertion, particularly in such motions of the body as compress the sac: for instance, from the act of bending the thigh upon the body. The following is a case illustrative of this:—A surgeon, from Woolwich, consulted me, stating that he often felt a sudden faintness come over him when raising his foot to the stirrup in mounting his horse, but that it left him again as soon as he brought his foot to the ground; a disagreeable sensation remaining, however, for some time after in the epigastric region. I made a careful examination of the abdominal region, and discovered a pulsating tumor about half way between the umbilicus and ensiform cartilage; but there was a difficulty in deciding whether the pulsation arose merely from the proximity of a solid tumor to the aorta, or whether the tumor communicated with the interior of that vessel. I hit upon the following plan of examination to decide the point:—I requested my patient to place himself on his hands and knees on the floor; I then stood over him, and placed my hands beneath his body, so as to sustain, as it were, the weight of the tumor as it fell forward from the aorta. I adopted this mode of investigation because I considered that if the tumor derived its pulsation in consequence of its contiguity to the artery, it would lose it in the position I have described; but I found the pulsation to continue with unabated strength, and that it increased in proportion to the amount of pressure I exerted upon the tumor; I therefore felt satisfied as to the disease being aneurism: I did not express this opinion to the patient, but the next day saw him again with Sir Astley Cooper, who, after a lengthened examination, fully agreed with me in the diagnosis I had before formed: the patient soon after died suddenly, from the bursting of the aneurism into the cavity of the abdomen. Aneurisms of the abdominal aorta often project posteriorly to such an extent as to form tumors in the loins, and under some circumstances these may not communicate to the hand the pulsating motion that may be expected to form their principal diagnostic feature: great care is therefore requisite in inquiring into all the circumstances connected with such a tumor and its growth, for if it were mistaken by any chance for lumbar abscess, and punctured, the error would probably be attended with a fatal termination. Sir Astley Cooper has quoted such a case in his surgical lectures: but in this instance the wound fortunately healed; the patient ultimately dying from the spontaneous bursting of the aneurism.

Internal aneurisms terminate fatally by hæmorrhage either into the serous cavities or into some important organ with which they have been made to communicate by the process of ulceration. The ascending aorta sometimes bursts into the pericardium, and thus destroys life immediately, by the pressure of the blood interfering with the action of the heart. The arch of the aorta may burst into the cavity of the chest or into the trachea or bronchi: if into either of the latter, a large quantity of blood would be thrown up; but this does not always destroy the life of the patient at once, as the ulcerated opening into the aneurism and windpipe may become plugged with coagulum, so as to restrain the hæmorrhage for the time: this happened in the case of the late Mr. Liston, who brought up more than a pint of blood at the first hæmorrhage, but lived for some weeks after. When the aneurism bursts into the œsophagus, hæmatemesis occurs; but here also it is not the first effusion of blood, but its frequent recurrence, that destroys the life of the patient. The bursting of an aneurism of the descending thoracic aorta may happen either externally or internally to the cavity: when internally, the blood may be discharged into the lung, œsophagus, or posterior mediastinum; if into the latter, the effused blood might make its way through the diaphragm into the abdomen, in which case the hæmorrhage would probably prove at once fatal, as there would, under these circumstances, exist less impediment to the flow of the blood than when the aneurism opens into the lung or œsophagus, where adhesions may perhaps have been formed, tending to diminish the size of the orifice through which the blood escapes. When aneurism is seated in the abdominal aorta, it may open into the stomach, intestines, or cavity of the abdomen; vomiting or purging of blood would denote its effusion into the stomach or intestines, and sudden death, attended by tumefaction and a remarkably anæmiated state of the surface of the body, would indicate the bursting of the sac into the general cavity of the abdomen.

Treatment of internal aneurism.—In aneurism there can be but little hope of cure from medical treatment, but at the same time the symptoms may be palliated to a great extent, and the life of the individual prolonged; and as there are many instances recorded of the spontaneous cure of aneurism even of the larger arterial trunks, it is desirable that every means should be employed to promote the efforts of nature to establish a curative action.

To show how much advantage may be derived from judicious medical treatment of this disease, I will describe a case which came under my notice many years since. A poor woman, 40 years of age, came to consult me for aneurism in the arch of the aorta: her occupation was that of retailing coals, and she was constantly exposed to considerable exertion. Upon examination I found a tumor as big as a pullet's egg projecting above the sternum: the skin was already discoloured, the pulsation very strong, and there was great difficulty of breathing, owing to the tumor pressing upon the trachea. The patient stated that she was sometimes seized with fits of coughing, which brought on great confusion in her head, and she felt as if she were going to die suddenly; indeed, when she first came to me, I thought from the urgency of the symptoms that she could not live a fortnight. I desired her to abstain from every kind of exertion, and ordered that ℥vj. of blood should be taken from the arm. I also prescribed gentle saline medicines, with small doses of digitalis. A few days after I first saw her, she came to me again. I was surprised at the favourable effect the treatment had produced: she was under the impression that she was permanently cured, and I could scarcely persuade her that she was quite unfit to resume her former occupation: this person lived two years, being occasionally bled to a slight extent, about 2 or 3 oz.; ultimately, however, she died suddenly, from the bursting of the aneurism into the trachea.

Some years ago a woman was admitted into St. Bartholomew's Hospital, under Mr. Earle, with aneurism of the arteria innominata. Upon consultation it was deemed an unfit case for surgical operation, and Mr. Earle therefore determined to try the effect of remedial treatment in producing a spontaneous cure, and ordered repeated small bleedings, rest, and cold applications to the tumor. The swelling very soon diminished in size, and at the end of three weeks the pulsation had nearly ceased: at this period, however, on the repetition of venesection, phlebitis unfortunately followed, of which the patient died.

Upon a post-mortem examination, the aneurismal sac, which was situated just at the bifurcation of the artery, was found nearly obliterated, and the surgeons all concurred in the opinion, that but for the untoward termination of the case, which was indeed totally unconnected with the original disease, the aneurism would have undergone a spontaneous cure.

The above cases illustrate the principles upon which the treatment of aneurism is based, modified of course according to the circumstances arising in each particular case. Perfect rest is of all things most essential in this treatment, and it is perhaps owing to the more violent character of the exertion they undergo that men are so much more liable to aneurism than women. Wherever nature effects the spontaneous cure of aneurism, she attains her object by the coagulation of the blood contained in the sac, and therefore many methods of producing such a condition artificially have been proposed; among others the transmission of a galvanic current through the sac, by means of acupuncturation needles, for the purpose of producing coagulation of the serum of the blood, thus contributing to fill up the sac completely. I should, however, fear that the excitement of such an operation would be more likely to produce permanent mischief than a beneficial effect, There are preparations extant of the spontaneous obliteration of the aorta itself, the circulation being carried on by collateral branches. Sir Astley Cooper tied the abdominal aorta several times in the dog, and always with success; and in one case of aneurism of the external iliac artery which had burst he was induced to perform the operation of tying the abdominal aorta in the human subject: but even if this operation were considered admissible in case of the bursting of an aneurism, it would still, in my opinion, remain a question whether it could be resorted to in case of injury to an artery—by a stab, for instance, as in the latter case the collateral vessels would not be prepared, as in aneurism, to carry on the circulation of the blood, which after the obliteration of the aorta would depend entirely upon them.

External aneurism.—An aneurism is so termed when the diseased artery is situated either in one of the extremities, or the neck, or indeed whenever it is external to the cavities of the trunk; and in consequence of these arteries being constantly exposed to the action of strong muscles, they become, when there is any predisposing tendency to aneurism, especially subject to it. The arteries of the lower extremity are more liable to aneurismal affections than those of the upper extremity or neck, and, as might "à priori" be supposed, in consequence of the greater muscular exertion to which man is subjected, it is more frequent in him than in woman.

Diagnosis.—The diagnosis is easier in external than in internal aneurism; but still pulsation, the great characteristic of an aneurismal tumor, is not always very evident even in external aneurisms: this circumstance may depend upon the firmness of the coagulum within the sac, the freedom with which collateral branches are performing the functions of the diseased trunk, or perhaps upon the want of power in the heart's action, under which circumstances, however, the peculiar pulsatory motion of an aneurism may be detected by making pressure on the artery on the distal side of the tumor, which invariably tends to increase the pulsatory motion. This diagnostic mark alone is not, however, sufficient to prove the existence of aneurism, as a swelling which derived pulsation from an artery might have it in some measure increased by this mode of proceeding: therefore, when pulsation is detected, to prove that it results from the cavity of the tumor communicating with the interior of an artery, the vessel should be compressed on the proximal side of the swelling, which would necessarily check its pulsation, and the tumor, if aneurismal, would become *flaccid;* but upon removing the finger, it immediately recovers its original size, conveying forcibly the idea of a fluid pouring into an empty bag. The mode of examination will also be sufficient to distinguish between an aneurism and a solid swelling to which a pulsatory motion is given by an artery passing over, under, or through the tumor; for although in this case, as in aneurism, the pulsation will be stopped by pressing the artery on the proximal side of the tumor, still there must be a perfect absence of that state of flaccidity and subsequent increase which instantly results in aneurism from the removal of the pressure. And further, the diagnosis may be rendered complicated and difficult by the tumor itself containing fluid matter, as might occur from abscess or encysted tumor, in which case the fluid itself would partake of a pulsatory motion; but even under such difficulties a diagnosis may be formed, from the fact that the swelling was not diminished in size by pressure made on the artery between the swelling and the heart.

The difficulty of the diagnosis between a tumor merely partaking of the pulsation of an artery, and an aneurism, may, however, prove insuperable even to the most experienced surgeon. In illustration of this there is preserved in the museum at St. Bartholomew's Hospital an injected preparation of a half of the thorax of a patient in whom Mr. Earle had tied the subclavian artery for what he considered an aneurism of the axillary artery. The patient was admitted into the hospital six years after, and died, when it was found, upon post-mortem examination, that aneurism had never existed, but that a tumor of the median nerve had pressed upon the artery, and produced the symptoms of aneurism. There is also in the same museum another preparation, in which the femoral artery had been tied for a pulsating tumor in the leg, supposed to be an aneurism. The patient died from sloughing of the tumor, when, upon examination, it was proved to be a disease in the tibia; and, what was singular, the absorbent glands of the groin were converted into bony concretions.

It is not uncommon to find more than one aneurism in the same individual; and Sir Astley Cooper mentions a case in which seven were found in the same person in whom he had tied the external iliac artery, and the patient died some months after from the bursting of an aneurism at the bifurcation of the aorta into the cavity of the abdomen. In another instance Sir Astley Cooper had made the first incision in the operation of tying the femoral artery in a case of popliteal aneurism, when suddenly the head of the patient fell back, his urine began to flow involuntarily, he gave a gasp, and instantly died. Upon post-mortem examination it was found that an aneurism of the ascending aorta had burst into the pericardium.

Mr. Tyrrel tied the femoral artery in a man who had femoral and popliteal aneurism on the same side. The patient died, and on examination of his body it was found "that the popliteal and one of the femoral aneurisms had been destroyed by sloughing, but that the one above the ligature was not closed. On the right side were found three femoral and a small popliteal aneurism, making in all seven, besides a dilatation of the aorta immediately above its bifurcation." There are now living three persons in whom I have tied both femoral arteries for popliteal aneurism: one of them, who is porter to an orange merchant, states that he feels as capable as ever he did of carrying a chest of oranges weighing two hundred weight. The cases of Sir Astley Cooper and Mr. Tyrrel, just quoted, afford strong examples of the necessity for strict examination of the patient before he is submitted to an operation for aneurism; for it becomes a serious question whether an individual who is the subject of aneurism of the aorta and popliteal artery at the same time ought not rather to be placed under medical treatment, in the hope of promoting the spontaneous cure of the disease, than subjected to the operation of tying the femoral artery for the cure of the popliteal aneurism alone.

The period of life at which aneurism occurs seems generally to be that at which the muscular system is at its full development, and between the ages of 30 and 50 is perhaps the time at which the disease is usually met with. Sir Astley Cooper states that he tied the femoral artery of a man 80 years of age, and the earliest age at which he had ever known aneurism to exist was 11: this was in the case of a boy who had aneurism of the anterior tibial artery.

Borot ("Recherches sur l'Aneurisme") states that out of 108 cases which he had investigated—

1	was under the	20th year
15	between	20 and 29
35	,,	30 ,, 39
31	,,	40 ,, 49
14	,,	50 ,, 59
8	,,	60 ,, 69
2	,,	70 ,, 79
2	,,	80 ,, 89
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Although I have myself operated for aneurisms more than thirty times, I have never had a patient under 28, or beyond 64 years of age.

Spontaneous cure of aneurism.—In a former part of the subject I stated that aneurism even of the aorta sometimes undergoes spontaneous cure from the firm coagulation of the blood within the sac completely filling and finally causing its total obliteration. This natural process of cure may also arise in an external aneurism; and quiescence of the limb, slight compression, keeping the limb elevated, application of cold to the part, and judicious diet, may all assist in promoting the efforts of nature to establish this restorative action. Spontaneous cure of an aneurism may also be induced by other circumstances besides the obliteration of the sac itself: the position of the tumor may be such, for instance, as to cause it to press upon the proximal part of the artery with sufficient force to produce obliteration of the canal; and a case is mentioned by Sir Astley Cooper in which the carotid artery became obliterated by the pressure from the sac of an aneurism of the aorta. Sloughing of the sac has sometimes extended to the artery above the aneurism, causing coagulation of the blood, and thus led to spontaneous cure of the disease. Mr. Goodwin, the Queen's veterinary surgeon, described to me a case he witnessed in St. Petersburgh. A patient of Dr. Arnendt, of that city, was the subject of an aneurism of the external iliac artery, just at Poupart's ligament. Dr. Arnendt determined on tying the artery; but on the day appointed for the operation severe hæmorrhage occurred, which rendered it necessary that the operation should be postponed: in the meantime sloughing commenced, and ultimately spontaneous cure of the aneurism was effected.

On the 20th of January, 1847, a patient, 35 years of age, was admitted into Guy's Hospital, in consequence of the bursting of a femoral aneurism: it had given way just below Poupart's ligament, and had produced a great effusion of blood, rendering the limb twice its natural size. Very slight pulsation could be felt either in the aneurism or in the effused blood; but I thought it right to secure immediately the left external iliac artery. The ligature came away on the 22d day, and the patient recovered without any bad symptom occurring. A question may, however, arise as to whether I ought not in this case to have waited to ascertain if nature would not, by means of the effusion, have established a spontaneous cure; but I considered that the quantity of blood effused was likely to lead to the obliteration of the collateral branches as well as the diseased trunk, and the danger of sphacelus led me to the step I have described.

The foregoing history of external aneurism sufficiently shews the necessity for either medical or surgical aid, and the choice to be made must depend upon the judgment of the surgeon as to whether the condition of the patient promises a just hope of the cure being spontaneously effected through the medium of the constitutional powers, aided by medicine, or whether the radical cure is at once to be attempted by compression or by the application of a ligature on the proximal side of the aneurism: as wounded arteries, however, require precisely the same treatment, before I describe that to be employed in each particular kind of aneurism I shall give a general account of the effects and treatment of wounds of arteries.

WOUNDS IN ARTERIES.

A wound in an artery may be the result of puncture, and may be oblique, longitudinal, or transverse, or the artery may be cut completely through, or the wound may be produced by laceration, or by mere contusion, which may lead to subsequent lesion and secondary hæmorrhage. Under any of these circumstances a ligature may be necessary to prevent the ill effect of the bleeding.

In the punctured wound of an artery, such as is sometimes produced accidentally in the operation for phlebotomy, it is not always necessary to put a ligature around the vessel; as I have already stated, the arterial coats are as highly organized as the other tissues, and equally capable with them of undergoing the adhesive inflammation. The wound may therefore heal if sufficient pressure be applied to prevent the blood from flowing through it; and at the same time, if the opening be but small, the continuity of the canal may be preserved.

If the wound in the artery be oblique or transverse, it has a tendency to gape open, in consequence of the elasticity of the coats; and in such cases pressure rarely produces adhesive obliteration of the opening; but, should compresses permanently check the hæmorrhage, obliteration will be effected by the effusion of blood, which, coagulating, fills up the opening, causes inflammation of the internal coat of the artery, and, finally, completely seals up the canal. After this, the blood has to be conveyed to the more distant parts by means of the collateral channels.

When an artery is completely cut or torn through, the truncated extremities of the vessel retract into the surrounding cellular tissue: the lesion in that case is very irregular, in consequence of the unequal degree of elasticity of the three coats. This irregularity is of itself sufficient to retard the flow of blood, and facilitate the coagulation, which, unless the artery be of very large size, will not only stop the bleeding at first, but also produce permanent adhesion in the internal coat of the divided vessel. Complete division of an artery is, indeed, much less likely to lead to the necessity for ligature, than when the vessel is only partially divided: the knowledge of this circumstance often gives rise to a peculiar treatment, when blood is drawn from the temporal artery,—when, for instance, a sufficient quantity of blood has been taken from the vessel, the latter is cut quite through, and pressure applied to prevent recurrence of the bleeding. If pressure alone be applied to the partially divided artery, an aneurism may subsequently be formed, and would probably require a surgical operation for its cure. This method can, however, only be adopted with respect to those vessels that are placed in such a position that they may be readily compressed upon bone; and where an artery is punctured, which, from its situation, cannot be thus subjected to compression. A ligature must be placed on the vessel both above and below the opening.

Laceration of an artery, even when the vessel is of large size, is often unattended by hæmorrhage. This circumstance arises, as I have already said, from the difference between the three coats with regard to their elasticity; and when the vessel is torn through, an irregular ragged opening is formed in which the blood readily coagulates, and the bleeding is spontaneously checked. This is particularly seen in gunshot wounds; and cases are recorded of amputations having been performed in which bleeding had only occurred in the collateral branches, and not at all from the main trunk.

Contusion of an artery sometimes leads to secondary hæmorrhage from sloughing of the injured vessel, owing to its vasa vasorum having been destroyed by the injury; but more commonly a coagulum forms in the vessel, and prevents bleeding by establishing subsequent adhesive inflammation in the internal coat.

Means of arresting hæmorrhage.—There are various methods of effecting this oject—viz. by styptics, cautery, torsion, compression, and ligature. *Styptics* are but seldom employed to arrest bleeding from a single vessel, but they are often very available in cases where, either from the peculiarity of diathesis, or unnatural local vascularity, diffused hæmorrhages occur. One of the best styptics I know of is a saturated solution of alum: but various preparations are sold for this purpose. Excepting, however, under the circumstances I have mentioned, no reliance can be placed on them as a means of stopping bleeding, and at the present time a surgeon would not think of trusting to such means, while ligature or the actual cautery could be had recourse to. It would, therefore, be useless to enter into a lengthened account of the different compounds that have been recommended for the purpose of stopping hæmorrhage.

Actual cautery is, perhaps, next to ligature, the most certain means that can be adopted to restrain the flow of blood from a ruptured or wounded vessel, and can often be employed where a ligature cannot be applied, as in those operations in which bones are implicated, especially the bones of the face; and no surgeon should undertake the removal of a part of the upper jaw, for instance, without being prepared with the proper apparatus for the application of the actual cautery. An instrument which I use for the purpose consists merely of a small rod of polished iron, furnished with a sheath: in the operation the sheath is be passed to the mouth of the bleeding artery, and the heated rod then inserted and passed along this canula, until it reaches the artery, which it cauterises without danger of burning the surrounding parts. I once succeeded completely in stopping by this means a severe hæmorrhage which followed the extraction of a tooth by Mr. Canton. A frequent method of checking bleeding from this cause is by driving a peg of wood into the alveolar process; but, although this plan may prove effectual, it is to be remembered that a foreign body is introduced into the living bone, and may be the cause of much future mischief.

Torsion.—The French surgeons have recommended torsion instead of ligature, when the bleeding vessel is of secondary size; but I have found very little certainty in this treatment, although I believe that failure often results from the manner in which the operation is performed: it is requisite that the bleeding vessel only should be seized by the forceps, and that a sufficient degree of *tension* should be applied to it to tear through the cellular connection; thus depriving the vessel of nutrition by rupturing the vasa vasorum, and at the same time producing lesion of the internal coat: *torsion* is then applied merely for the purpose of destroying the physical elasticity of the outer coat; and if any of the surrounding tissue be taken up as well as the artery, it will be found difficult to effect the objects required. It may be asked, what are the proposed advantages of torsion over ligature? It does away with the necessity for the introduction of a foreign body into the wound, and consequently avoids the difficulties that subsequently arise in the separation of the ligature. But still I am of opinion that torsion should never be attempted excepting in cases of the smaller vessels. I have frequently found it useful in the extirpation of the mammæ, when the hæmorrhage has been troublesome from numerous small arterial branches; and if a ligature had been applied to each of these, a large amount of extraneous matter would have been introduced into the wound.

Compression is a further means of checking hæmorrhage; and it is also now employed for the cure of aneurism. When used as a means for stopping bleeding, it should not merely be applied upon the wound in the vessel itself, but the bandaging should be so employed as to modify the circulation throughout the whole limb,—as, for instance, suppose a deep punctured wound in the palm of the hand, followed by hæmorrhage, which it is thought advisable to attempt to restrain by compression. A bandage should be first applied round each finger separately, and then continued around the hand, a compress being placed immediately over the wound. The bandage should be continued up the fore-arm, and small compresses of cork placed on the radial and ulnar arteries, with sufficient pressure to diminish without wholly stopping the supply of blood to the hand. The bandage should be continued with a moderate degree of tightness as far as the shoulder.

The patient ought to be kept in the recumbent position, and a low equable temperature maintained in the arm by the application of cold water. A gentle immediate compression may, however, be sufficient without the employment of the gradual impression by bandage. The following is a good illustrative case of the staying of hæmorrhage by compression:—

George Paris, aged 10, was admitted into Guy's Hospital, 4th June, 1846. Five weeks before his admission, he received in falling a severe wound just above and to the inner side of the left wrist. A considerable flow of arterial blood immediately followed the accident: the bleeding was restrained at the time by compression, but recurred on various occasions whenever the bandages were loosened, so that the boy's health began to be affected by repeated losses of blood. When he was brought into the hospital, it was a wound about three inches in length, extending obliquely from the styloid process of the ulna upwards and outwards towards the radius, and filled with large glassy granulations, vulgarly called proud flesh. As soon as the pressure of the bandage was taken from the wound, the bleeding immediately recommenced, the blood seeming to flow from the whole surface, rather than from a single bleeding vessel. Pressure was, therefore, again applied, and was required to be so strong as to destroy all sensation in the hand; it was therefore removed, when the hæmorrhage quickly returned. A tourniquet was then applied to the brachial artery. Upon examination, it was found that pressure upon either the radial or ulnar artery did not check the bleeding, but that slight continued pressure on both did so effectually. I therefore ordered a piece of cork to be placed upon those arteries about two inches above the wound, the pressure being sufficient to diminish the flow of blood, but not to stop it entirely: the hand was at the same time raised and kept cool by an evaporating lotion. This treatment succeeded perfectly; the wound in the artery healed, and at the end of the month the patient was discharged quite well.

A boy, aged 15, wounded the palm of the hand with a piece of broken glass. Arterial bleeding immediately followed. A surgeon was sent for, and applied a compress upon the wound, and succeeded in checking the hæmorrhage. At the end of a week, upon removal of the compress, the bleeding recurred, and the compress was consequently re-applied. Successive bleeding, however, followed; and a fortnight after the accident the boy was admitted into Guy's Hospital, much anæmiated. I immediately ordered gentle compression to be applied by means of pieces of cork placed upon the ulnar and radial arteries, as in the former case; the arm was raised upon pillows, and cold kept constantly applied, and the patient soon left the hospital quite cured.

A third case of the same kind is now in Guy's Hospital, under my care. In January last, a man, 30 years of age, was admitted into Steven's ward, with a severe wound in the back part of his elbow. He stated that a profuse hæmorrhage had taken place at the time of its infliction, and had been checked by bandage, but had afterwards recurred upon several occasions. When he was admitted into the hospital, he was very pallid, had a sharp hæmorrhagic pulse, but no bleeding had taken place for three days. A dose of opium was ordered, and a whitewash poultice applied to the wound. Three days after his admission he had fresh arterial bleeding to a considerable extent. I ordered a tourniquet to be applied to the brachial artery, with sufficient pressure to diminish without checking the circulation. Cold was also applied to the whole of the injured arm. No further bleeding occurred, and in about three weeks he was discharged perfectly cured.

It may be said that the readiest means of stopping the hæmorrhage on these occasions would have been to have cut down upon the wounded arteries, and placed a ligature above and below the opening in the vessel; but as the accidents had occurred some time before the patients came under my treatment, and as the natural condition of the parts had undergone great change in consequence of the extravasation of blood, I thought it safer to employ the treatment described in the cases; and I feel that the result fully justified my view of the subject.

CASE OF SEPARATION OF THE STOMACH FROM THE ŒSOPHAGUS. BY THOMAS M. FLINT, STUDENT OF MEDICINE IN THE JEFFERSON MEDICAL COLLEGE. [COMMUNICATED BY PROFESSOR DUNGLISON.]

By your request I furnish you the particulars of the case in which softening of the stomach was found to have occurred. The attending physician, who is a respectable graduate of this school, has given me the following statement of facts: "The patient was a male child, aged seven years; sick about three weeks; symptoms of worms were prominent—one was passed; cerebral symptoms followed, which terminated in death. Coma and unconsciousness were prominent symptoms for ten days previous to death. When roused from this state he would eat a small quantity of gruel. He was treated for worms and cerebral symptoms."

On the 4th inst., thirty-six hours after death, I opened the body in the presence of the attending physician and a member of this class. We carefully examined the intestines, beginning at the rectum and tracing the tube up to the connection of the duodenum with the stomach, without meeting with a worm of any kind; but noticed marked inflammation of the small intestines. We next directed our attention to the stomach itself, which, to our surprise, was found to be severed from its connection with the œsophagus, and its contents; a dark-brownish mucilaginous-like fluid poured out into the cavity of the abdomen to the left of the spinal column. We were not prepared to meet with a lesion of this character, and could account for it only by the action of the gastric acids producing *ramollissement* of this organ after death. In this opinion we were confirmed by the appearance of the liver; for besides evident marks of acute inflammation, the inferior edge of the left lobe, which had been in contact with the gastric fluid, was corroded and corrugated.

That you may have the opportunity of examining the case, I herewith deliver to you the stomach and liver taken from the patient at the post-mortem.—*Philadelphia Med. Examiner.*

Original Communications.

SOME CONSIDERATIONS

TENDING TO PROVE THAT THE CHOROID PLEXUS IS THE ORGAN OF SLEEP.

By Jonathan Osborne, M.D.

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> "There ben many mistereys in that regoun."
> Sir J. Mandeville.

I. In order to prepare ourselves for the appreciation of the facts to be brought forward in this communication, it will be necessary, in the first place, to understand what we mean by the word *sleep*. Disembarrassed from the various definitions which have been attempted, it is in these observations to be viewed simply as a loss (more or less) of sensation, and of the power of motion, while consciousness may remain and be occupied on past recollections, as is the case in dreams, or be affected by disturbances of the circulation, as is the case in nightmare. Now the same degree of insensibility and loss of motion may be produced in any part of the body by depriving it of its nervous communication with the brain. When one knee is kept firmly fixed on another so as to compress the nerves, the individual, though in full possession of all his faculties, yet finds himself deprived of the use of his leg. It is to him for a time as if it ceased to belong to him. It no longer feels. Although the circulation of the blood is carried on as usual, yet he is no longer capable of moving it; and were it not for the information supplied by his reason, and the testimony of the other parts of his body, he may be said to be unconscious of its existence. The popular expression applied to a limb in this state, when it is said to be *asleep*, is perfectly conformable to the phenomena, inasmuch as the deprivation of sensation and power is only temporary, not permanent, as in paralysis, but removable on taking off the pressure, just as the loss of sensation and power over the whole body belonging to sleep, is removed on awaking.

This similarity of phenomena produced in the one case by the agency of external pressure, ought to lead us to the search for a similar agency in the other. Is there any contrivance provided for the application of pressure to the system of nerves at their exit from the brain, so as to put a lock on the media of sense and voluntary motion at their very origin, and thus cut them off for a time from the dominion of the intelligence and the will. Let us see, then, in the next place, what is the part of the brain where such a contrivance, supposing it to exist, could be applied with the most effect.

II. It is clear that the portion of the cerebral organ lying under the arch formed by the tentorium cerebelli, would, when compressed even to a slight degree, impair the communication between the brain and the rest of the body, and if to a high degree cut it off altogether. We are further instructed by experience, that effusions of fluid taking place within the cavity of the ventricles, are, when sufficiently extensive, always attended with coma, and the coma and the effusion in cases unembarrassed by any complexity are found combined in so many cases as to leave no doubt of their standing in the relation of effect and cause. The great difference between coma and sleep is, that the patient cannot be roused out of the former as out of the latter. The phenomena of both, are, while they last, exactly the same. It is true that in some cases of chronic hydrocephalus the coma may not be complete, and the patient may be in a state resembling that between sleeping and waking, although with enormous accumulation of fluid distending the ventricles, so as to cause a proportionate enlargement of the size of the head; but in such cases the gradual accumulation of the fluid, no less than the yielding of the cranial integuments, prevents the pressure from producing its otherwise necessary and inevitable effect. It appears, then, only requisite for us to show how a pressure can be applied within the ventricles, and especially in the third ventricle, which is under the arch of the tentorium, in order to show how that interruption of our communication with the external world which we call sleep, can be produced.

III. For the production of such a pressure within the ventricles, some organ is required in it capable of extension for sleep, and of contraction for waking. Now let us consider whether this is not furnished in the choroid plexus. The appearance of it is that of shrunk erectile tissue, and if it be actually erectile tissue, there can be no doubt, from the extensibility of the same tissue in other parts of the body, that it is amply sufficient for the purpose. The difficulties, however, of injecting it to prove this point are very great, arising from the existence of several vessels, communicating with adjacent parts, no less than from several other mechanical complexities from which other erectile tissues, as that of the penis, can be disembarrassed. On examination of it, however, in some animals under favourable circumstances, as in the sheep freshly killed, the vessels of it are to be seen forming successions of loops, not to be found on the pia mater at the upper surfaces of the brain, and such as are not to be found except in parts intended for great distension. On injecting in the same animal the arteries and veins of the brain with different colours, not only the tortuous arrangement of the smaller veins, but the great size of the larger ones, so disproportioned to the size of the organ (as we see it), ought to convince us that it is intended to perform some important function, and not to be a mere congeries of vessels and membranes. It does not invest any part, nor dees it supply blood to any part. In the human subject it not unfrequently exhibits cysts filled with a transparent fluid, which by some have been supposed to be hydatids; but they may, when seen sufficiently early after death, be often observed with numerous blood-vessels ramifying on their surface, while their cavities are readily penetrated by coloured injections passed from the arteries in the same way as we witness in the cells of the corpus cavernosum of the penis.

IV. If the choroid be an erectile tissue producing sleep by the enlargement of its dimensions, and the pressure consequent thereon, the brain should at the commencement of sleep be pressed upwards in the same way as in cases of effusion into the ventricles, when we often see the convolutions flattened against the dura mater. Now this I was so fortunate as to have the opportunity of ascertaining to be the case in a patient in Mercer's Hospital; and this was in fact the occasion of my thoughts being first directed to the subject of sleep. A boy received a kick from a horse, which inflicted a depressed fracture of the parietal and temporal bones. By the trephine a surface of bone was taken away, of the shape nearly of an equilateral triangle, each side of which measured about three inches. After passing through the various states consequent to such an accident, he was dismissed well. While the wound remained open, I repeatedly visited him in the evening, at which time he was usually drowsy, and by frequently talking to him, so as to interrupt him when inclined to sleep, was enabled to satisfy myself that in the act of falling asleep the brain rose in the wound, and remained in that state as long as the sleep was suffered to continue, while every time he was roused it uniformly sank to its former level. I was the more anxious to ascertain the truth on this *point*, as I found a statement to the contrary effect recorded by Blumenbach.

Now this elevation was perfectly distinct and independent of that motion at the surface of the brain which keeps time with respiration, and which must be nearly if not altogether confined to the veins, the sinuses being held to their own diameter by their transverse bands. Neither could it be confounded with that slight and scarcely perceptible motion produced by the arteries, and synchronous with the action of the heart. The swelling of the brain at the commencement of sleep was so great as to admit of no comparison with either; and then, what part of the vascular system remains to which it can be attributed except the choroid plexus?

V. In order, however, to render the turgescence of the choroid effectual as an organ of pressure, the parts to be pressed should be within a closed chamber. Now all the mammalia, birds, and fish, agree in having a choroid plexus, closed skull, and a partition of a firm consistence between the cerebrum and cerebellum. It follows also that such a turgescence as we suppose must not only produce a direct pressure on the cerebral structure in the immediate vicinity of the choroid, but by the occupation of so much space must cause a corresponding diminution in the quantity of blood circulating in the upper portions of the brain, which must be admitted to be the most immediately connected with the intellectual functions. Now, from what we know of the complete insensibility produced by defective circulation in syncope, the loss of so much blood circulating in that region ought to induce a state of unconsciousness to external objects, and thus it would appear that in two different ways is the application of the one agency—namely, turgescence of the choroid, capable of bringing on the phenomenon of sleep.

VI. The use thus assigned to the choroid requires that a space should be left free and suited for its reception when distended. Now this appears to be the special use of the four ventricles, which, were it not for an impediment caused by the choroid itself, would form but one cavity. The figure of the various portions of the ventricles is that which would be assumed by the choroid if distended in the manner of an erectile tissue. This is well seen in the lateral ventricles by comparing its dimensions at the posterior part of the optic thalamus with the size it attains at the cornua, when, if distended as we suppose it to be, it would embrace almost in a circle that portion of the cerebral organs from whence all the nerves take their origin.

It is also to be observed, that if the choroid maintains during life the same dimensions and the same position that we see it occupying after death, it should from the analogy of other parts, be accommodated with grooves in the adjacent structures, suited to its figure, and adapted to its reception, or at least leave an impression to be seen after death, to indicate the place it occupied. Now this is not the case. It lies loose in a chamber many times larger than itself, but still representing it in shape, and no impression or trace of it is to be seen at the place with which it is actually in contact. Hence there appears the strongest probability that its size during the continuance of life has varied so frequently, that no one part of the chamber has been more pressed by it than another; which could hardly be the case unless it frequently filled the entire, or at least the greater part, of the cavity.

VII. To show that it is a moving organ, the epithelial bodies on its surface described by Valentin, no less than the cilia discovered by Purkinje, afford the strongest evidence. Moreover, the fluid of the ventricles is not serous, but rather resembles mucus, as appears from the following table of the composition of effusions into different cavities, drawn up by the late Dr. Marcet.

	Sp. Grav.	Total Solid Contents.	Animal Matter.	Saline Matter.
Fluid of Hydrocephalus	1006·7	9·2	1·12	8·08
,, Ascites	1015·	33·5	25·1	8·4
,, Ovarian dropsy	1020·2	——	——	8·
,, Hydrothorax	1012·1	26·6	18·8	7·8
,, Hydrops pericardii	1014·3	33·	25·5	7·5
,, Hydrocele	1024·3	80·	71·5	8·5
,, Blister	1021·1	——	——	8·1
Serum of the blood	1029·	100·	90·8	——

The kind of animal matter in hydrocephalus he calls muco-extractive, the quantity of albumen being so small as scarcely to be rendered visible by heat or acids. Now, connecting this with the epithelial structure of the surface of the choroid, the ventricles appear to approach to the nature of a synovial cavity, and to be intended for facilitating motion to an extent exceeding that which occurs in any of the serous cavities of the body.

VIII. The organ of sleep, wherever it is, should be not under the dominion of the will. It is well known that no effort of the will, however perseveringly exercised, can command sleep; all we can do is to place ourselves in circumstances favourable to it. Thus, fatigue, the horizontal posture, the influence of habit, are at times quite ineffectual, though backed by the strongest desire to obtain the indulgence; while in other cases it overpowers us in spite of many efforts to the contrary, and in situations where none of those circumstances are in operation. Now the choroid does not receive branches from any of the nerves of the brain or spine. It communicates with the sympathetic by means of the branches accompanying the divisions of the carotid artery, and Mr. Rainey has, both in it and the arachnoid, traced plexuses of nerves extensively diffused, but evidently exclusively belonging to the ganglionic system. Hence it follows that we have no more command over it than we have over the heart or any other of the organs of animal life; and when, by assuming a state of turgor, it compresses the origin of the cerebral and spinal nerves, and cuts us off from the external world, it does no more than invest the organic life with an absolute dominion for some time, until the organs belonging to the sensorial and intellectual functions shall be sufficiently renewed and refitted in order to resume the exercise of their appropriate offices.

IX. It is difficult to understand how sleep, which appears to be so independent of the will, and in which all the energies of the individual seem to be in a merely passive state, can commence in the distension of an erectile tissue. When, however, we recollect that the choroid is not supplied with nerves of sensation, much of the difficulty vanishes. That there is, however, a vascular excitement at the commencement of going to sleep, I have often ascertained, so as no longer to entertain a doubt on the subject. A good mode of witnessing it is to sit at the bedside of a child in a drowsy state, and remaining quiet, to keep the hand on the pulse till complete sleep has taken place. Just at the moment of falling asleep the frequency of the pulse increases generally ten beats in the minute above the ordinary rate, and then, according as sleep is established, it falls down to about ten degrees below it, at which it remains, but with more fulness and softness than when awake.

During the progress of going to sleep there is nothing more common than twitches and starts, which may be explained by the time required for the completion of the erectile turgor, during which unequal pressures are likely to take place: a certain order, however, is usually to be observed in the coming on of ordinary sleep, and that the very order we should *à priori* assign from a consideration of the parts most likely to be first pressed on by the swelling of the choroid. In going asleep, as may be observed in endeavouring to listen to a tedious and uninteresting discourse, the sight is the first to fail, even though the eyes are kept open. The eyelids are next overcome, and drop down, in spite of our efforts to the contrary. The hearing then becomes more and more dull, till it ceases altogether. In the meantime paralysis is creeping over all the voluntary muscles. The head inclines forwards, though for a time upheld by the action of the muscles at the back of the neck, till at length it is so much out of the perpendicular that its weight preponderates, and it falls forward. The individual is often thus awoke by the shock, but in proportion as the paralysis becomes more completely established it inclines more and more prominently forward, till at last it sinks on the breast without any further resistance, and then ensues a state of complete unconsciousness to surrounding objects.

X. If an increased vascularity in any part of the cranial cavity is required for the production of sleep, then, inasmuch as the arteries of the brain are devoid of circular fibres, and the sinuses in which the veins terminate are always held equally open, it would appear that both position and temperature must exercise an important influence. All animals when soliciting sleep place the head so as to be horizontal with respect to the heart. In order to secure its warmth, birds place it under their wing, and other animals in a curved form to obtain the same disposition. With respect to hybernating animals, it is evident, from several considerations, that their state during winter is totally different from sleep, and that it consists principally in a torpid circulation of blood, involving a low sensibility in every part of the system. Hybernation only comes on at the arrival of the cold season, and ceases with the warmth of summer, when these animals enjoy the alternations of true sleep and waking in the same way as others.

XI. And now for the positive facts which I have been able to collect. Until a late period the only observations made on the choroid in my notes of dissections, were that it was remarkably pale and exsanguious in some cases of effusion into the ventricles, and that now and then there were cysts filled with clear fluid within its substance; and on perusing the numerous cases of dissections of the brain recorded by Abercrombie, Cruveilhier, and others, I find little more than the same. In Dr. Bright's great work, I was in a lively state of expectation on perusing his index, but on reference to his cases they were of no avail in illustrating the present question, on account of the omission of almost all mention of the sleep of the patient.

In the following case, however, reported by Dr. Bright, a circumstance occurred which is of the greatest rarity, and, according to my own experience, is unique—namely, a closure of important portions of both lateral ventricles, so as to materially interfere with the presumed occupation of them by the choroid during sleep. It was that of John Hitchcock, aged 34, who had for many years complained of pains in the head so excessive that *he often said he wished to die.* In spite of the most active treatment repeatedly applied they still continued. Epileptic fits supervened, with imbecility, and loss of vision of one eye. After a fit he became unconscious, and paralysed at one side for eleven days, when death ensued. On dissection, "the skull was in some places three times thicker than natural; the dura mater remarkably loaded with blood. In the ventricles no unusual fluid; the choroid of a very dark colour, and felt quite fleshy, but did not appear to be actually disorganised." The most remarkable appearance was *a firm adhesion of the surface of each corpus striatum to the opposite side of the ventricle for a space of nearly half a quarter of an inch square, and so firm that the membrane was torn from the surface in attempting to separate them.* It is most probable that in this instance sleep was not obtained, or the pain in the head would not have been complained of in such strong terms; but, unfortunately, that most important function has in this, as in so many other important recitals of cerebral disease, been not expressly mentioned, and therefore I cannot derive any positive conclusion from it. If, however, a case shall ever occur of complete closure of the ventricles by adhesions, and yet with a capability of sleeping on the part of the patient continuing up to the time of death, then an experimentum crucis must be admitted, and it will follow that the proposition brought forward in this paper is altogether wrong, and that the use of the ventricles is not to receive the distended choroid. But no such case has, as far as I can trace, ever occurred. The above is the only approach to it that I can find recorded; which is the more worthy of remark, as adhesions between the opposite surface of the pia mater, at the convolutions on the upper surface of the brain, are so general as to be almost universal.

Within my own direct observation I have only two cases. The first, that of a man about 70, who died in a sinking state, with very slight febrile symptoms, and with some appetite continuing to the last. After his death, I learned from the nurse that his only complaint was loss of sleep. She always found him awake, and he stated that he had not enjoyed a good night's sleep for months. On examination, the brain was healthy in every part, but though no effusion had taken place, the choroid was nearly colourless, and was as it were knotted and in lumps, so as to attract my observation at first sight, and before I had learned the particulars now mentioned.

The second occurred last year, in Mercer's Hospital. A man, about 50, of most intemperate habits, was admitted labouring under chronic bronchitis, with erysipelas in his leg, where a large abscess suddenly formed, and he sank in about a week. During this time the man in the next bed declared that he never was able to sleep, and that when he did now and then fall asleep he awoke almost immediately afterwards in a state of apprehension. He died in full possession of his intellects. On examination, the brain was quite healty: each ventricle contained only about 1½ drachm of fluid; but the choroid at its origin was pale and shrunk, and in the part corresponding to the inferior cornu there was in each choroid a vesicle about the size of a white bean, filled with reddish fluid, and exhibiting beautiful ramifications of vessels on their surface.

Another case to be added to the above is that of the late Prof. Davies, of London, who died at 64 years of age. It is stated that during the last three years of his life he was constantly troubled with insomnia (disturbed sleep), except of Saturday nights, when he used to sleep at Ramsgate. Each ventricle contained half an ounce of serum. The choroid at both sides was pale, studded with several cysts containing clear serum, the largest as big as a pea on the right side; the optic thalami flattened out and gelatinous; opaque yellow patches on their surface; fornix remarkably soft, and the fifth ventricle unusually distended with clear serum.

XII. To those who object that the turgor of the choroid, which I suppose to be the cause of sleep, is never seen after death, I would reply that, if it be an erectile tissue, it must always disappear, if not before, yet inevitably at the moment of death, and that consequently it will never be revealed to us in that state by dissection. If the corpus cavernosum of the penis were in the interior of the body, the man who should have the hardihood to state that it was capable of distending itself during life to ten or twenty times the bulk it was always seen to have in the dead subject, would not be listened to. With regard to experiments by narcotic poisons, I am convinced that, even with the utmost skill and precaution, it will be impossible by any means to kill an animal, open his cranium, and cut through his brain, without awakening him. From the changes which we see in the capillary system of vessels at the surface produced by the approach of death, it seems highly improbable that the turgescence of the choroid, which we suppose to exist only during sleep, will ever be witnessed in the dead subject; and if this cannot be effected, it is then equally improbable that the proposition will ever be either proved or disproved by the evidence of post-mortem examination.

There is another fact, however, which, as increasing the evidence by analogy, ought not to be omitted: it is, that the act of going to sleep, or the state between sleeping and waking, is a state of positive enjoyment, not consisting merely in rest or forgetfulness, and insensibility, but accompanied by a certain delicious sensation, experienced by all, but impossible to describe. It is at this time that the pulse has increased in frequency, and is just passing into the state of slowness and fulness which it maintains during the continuance of the sleep. During sleep the erectile tissues in the other parts of the body pass more or less into a state of turgor, often occasioning emissions and lascivious dreams, which are such frequent subjects of complaint on the part of young men prone to nervous excitement; while the want of sleep so common in advanced life (*Agrypnia seniorum*) would appear to be connected with a deficiency of erectile function, as it comes on at the same time that the erectile tissues in the genital organs are becoming unexcitable and torpid.

Let it be observed that in this communication I do not profess to have proved anything: I have only collected facts to make up a probability which certainly appears to me a strong one. Let it be conceded (as I think it must) that the sleep of the whole body is of the same nature as the sleep of a limb, and that the only way in which the latter is produced is by pressure, and that we have no example in physiology of nerves losing their sensibility for a time, as in sleep, and then recovering it, except by the application of some external agency,—then the question must force itself, if the agency producing sleep be not pressure, what else is it?—and if pressure, then what organ is there for its application except the choroid?—and if the choroid, then in what way except by its acting the part of an erectile tissue?

WHORTLEBERRY SEEDS CONSIDERED AS SPECIMENS OF HEMP-SEED URINARY CALCULI.

Dr. Jackson exhibited a quantity of whortleberry seeds that were said to have been passed from the urinary bladder, and had been regarded as hemp-seed calculi. The fact in the case was proved by the most thorough examination. The patient was a lady, thirty years of age, and "in point of morals, &c., above suspicion;" she was suffering at the time from anasarca. Dr. Jackson also referred to a second case, that had recently occurred in this city, and where the same kind of seed appeared to have been used; the patient here also was a female, and probably above suspicion.—*American Journal of Medical Sciences.*

NARCOTISM BY THE INHALATION OF VAPOURS.

By John Snow, M.D.
Vice-President of the Westminster Medical Society.

[Continued from p. 456.]

Part XI.

The combination of chloroform and ether—of chloroform and alcohol—Chloric ether—Strong chloric ether—New mode of inhaling vapours.

It has been shown in former parts of this essay, that the action of chloroform can be rendered perfectly mild and safe by diluting it sufficiently with air. If the properties of this body were such, or if another body could be met with having such properties that the relation between its intrinsic power and its volatility would prevent the air from taking up so much vapour, under the usual circumstance of temperature and pressure, as could enable a patient to get an overdose without ample warning, this would be an advantage; as there would then be no fear of accidents in the hands of medical men, even when not armed with a suitable inhaler, and special experience on the subject. This, however, is not the nature of chloroform, and although there are substances of this character, of which I intend to give a further account, they do not possess, at the same time, all the other convenient and agreeable qualities which would enable them to supersede chloroform in the majority of surgical operations. As the most desirable strength of a volatile narcotic liquid, not requiring great care in its use, is between that of chloroform and that of sulphuric ether, it might be supposed that by mixing the two medicines the desired end would be attained: but such is not the case; they have been so mixed by some practitioners, and I have tried them together, but the result is a combination of the undesirable qualities of both, without any compensating advantage. Ether is about six times as volatile as chloroform—that is to say, if equal measures of each be placed in two evaporating dishes kept side by side, at the same temperature, the ether evaporates in about one-sixth the time of the chloroform; and when the two liquids are mixed, although they then evaporate together, the ether is converted into vapour much more rapidly; and, in whatever proportions they are combined, before the whole is evaporated the last portion of the liquid is nearly all chloroform: the consequence is that at the commencement of the inhalation the vapour inspired is chiefly ether, and towards the end nearly all chloroform: the patient experiencing the stronger pungency of ether when it is most objectionable, and inhaling the more powerful vapour at the conclusion, when there is the most need to proceed cautiously.

Chloroform was first employed for inhalation in the form of solution in alcohol, in which state it was called chloric ether. Mr. Jacob Bell was, I believe, the first person who exhibited it,[*] and it was afterwards employed occasionally in St. Bartholomew's Hospital, and in the private practice of Mr. Lawrence. This so-called chloric ether contained from twelve to eighteen per cent. of chloroform. When inhaled it yielded a little vapour of chloroform at the beginning of the process. Each hundred cubic inches of air passing over it, would take up, if saturated at 60°, from one and a half to two cubic inches, mixed with some vapour of spirit, and this was enough to produce insensibility if continued of the same strength, but by the time a third part of the liquid was inhaled, the quantity of vapour given off was reduced to less than half a cubic inch, which is insufficient either to induce or keep up insensibility; and when about half the chloric ether had evaporated, the remainder was reduced to spirit and water, with scarcely a trace of chloroform. Consequently, unless the inhaler were frequently emptied and replenished with fresh ether, insensibility failed to be induced; and under any circumstances the use of this preparation was troublesome and expensive.

In some able and interesting articles recently published in the Medical Gazette, Dr. John C. Warren, of Boston, U.S., has recommended a strong chloric ether, containing one part chloroform to two parts alcohol; this would be undoubtedly much more efficient than the ordinary chloric ether; but there is the same kind of irregularity in its effects, as in the case of the weaker preparation. The chloroform evaporates chiefly with the first portion of spirit, and when a little more than half the liquid has been used, the remainder contains very little chloroform, and is, therefore, of no use for inhalation, since vapour of alcohol has very little effect.

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[*] See Pharm. Journ Feb. p.

I had often considered the subject of diluting chloroform with spirit, and since Dr. Warren's papers appeared have given the matter additional attention. I have mixed chloroform in various proportions with alcohol of 92·5 per cent. and ascertained the quantity of vapour the compounds would give off. I have also placed these compounds in a current of air, in imitation of what takes place during inhalation, and by measuring the liquid from time to time, and weighing it in the specific gravity bottle, have been able to calculate the changes of composition which take place as evaporation proceeds. In so doing, a correction was made for the small quantity of water in the spirit, the proportion of which increases as the alcohol evaporates. The following table, which is as accurate as can be made without introducing fractions, shows how the proportion of chloroform decreases when it is mixed with an equal volume of alcohol, or with any other quantity marked in the table. For instance, when the hundred parts are diminished to sixty, they constitute the strong chloric ether of Dr. Warren, and the alterations in that compound are subsequently shown. The fourth column exhibits the quantity of chloroform in the mixed vapour that 100 cubic inches of air would take up, if saturated at 60°. The quantity that 100 cubic inches of air will thus take up from pure chloroform, is fourteen cubic inches.

Chloroform and Alcohol.	Alcohol.	Chloroform.	Cubic Inches of Vapour.
100	50	50	8·1
90	48	42	7·8
80	46	34	7·4
70	43	27	6·8
60	40	20	5·9
50	37	13	4·5
40	33	7	2·1
30	27	3	0·9
20	19½	½	0·0
10	10	0	0·0

Dr. Warren recommends the strong chloric ether, in order to prevent the accidents that have resulted from the too rapid action of chloroform. The quantity of vapour of chloroform that air would take up from this compound would, under the usual circumstances of inhalation, not exceed six per cent. —a proportion which, I believe, would not cause any sudden accident; but unless the person using it have such skill as would enable him to avoid the risk of accident in using chloroform, he would be liable to fail in producing insensibility with its solution in spirit, owing to its rapidly decreasing strength, and the diminishing quantity of vapour that it gives off: indeed, Dr. Warren has himself experienced the irregularity of the action of strong chloric ether, having failed to induce insensibility with it in two or three cases; but he attributes the failure to a defect of susceptibility in the patients, and he advises the resort to chloroform in such cases. This is virtually yielding the point, and incurring in some cases the very risk which the proposed practice is intended to obviate. A case which occurred recently in Westminster, the account of which had not reached America when Dr. Warren's papers were written, shows that an apparent want of susceptibility does not protect the patient from accident. In that case,* a gentleman, who, as I am informed, had many times used chloroform in the same way before, employed half an ounce on a handkerchief without making the man insensible; but, a fresh supply being obtained an hour or two afterwards, the patient got an over-dose, and lost his life, although the quantity used was not greater than on the previous occasion. When chloroform is given in such a way that the strength of the vapour can be regulated, it is found that there is no appreciable difference in the susceptibility to its action, whatever variety there may be in the symptoms induced previous to insensibility, and in the extent to which it is requisite to carry the narcotism in order to obtain relaxation or immunity from pain; and since it has been shown in the first three parts of these papers, that there is a definite rule for the proportion of chloroform and other narcotic vapours in the blood, which applies alike to animals of different classes, it cannot be supposed that any human being could form an exception, since he would have to differ, not only from his own species, but from the animal kingdom in general.

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* See Lancet, Feb. 24.

When it is necessary to give chloroform on a sponge, during a surgical operation, it is not a bad plan to use it diluted with spirit, as recommended by Dr. Warren. In two or three recent cases of operation on the face, insensibility having been induced before the operation, by means of the apparatus as usual, it was requisite to employ the sponge to keep the patient insensible during its performance; and I employed a solution of chloroform in spirit, sometimes in equal parts, at other times in the proportion constituting the strong chloric ether. Both preparations answer the purpose very well, and can be employed more freely than undiluted chloroform. I poured, for instance, half a drachm or a drachm on the sponge at once, in these cases, instead of a few minims.

If the strong chloric ether were used exactly as recommended by Dr. Warren, there would, I fear, be danger of accident from a cause independent of the action of the vapour inhaled. An ounce of the medicine is directed to be poured on a sponge only twice the size of an egg, which must thereby be rendered dripping wet, and should the patient be on his back, there would be risk of some drops of the ether being drawn into the glottis, in a liquid form. I have been informed by the operator of a case in which a patient was threatened with suffocation from a drop of chloroform falling into the throat from a sponge, and the solution of it in alcohol is scarcely less irritating, and would undoubtedly cause spasm of the glottis.

It follows from the above considerations, that, as a general rule, there can be no advantage in using a mixture of two or more substances of different volatility, by any ordinary method of inhalation, since the mixture cannot be uniformly introduced into the circulation. If, however, it should hereafter be found that there is any physiological advantage in combining any vapours, they could easily be given together in any uniform proportion, by a method which I have been employing lately for the exhibition of chloroform in cases in which I wished to be more than usually precise, or to gain a more exact experience. This method consists in putting a definite quantity of the liquid to be inhaled into a balloon made of thin membrane, the capacity of which is known, and is not less than two thousand cubic inches, then filling the balloon with air by means of the bellows, and allowing the patient to inhale from it: the expired air being prevented from returning into the balloon, by one of the valves in the face-piece to which it is attached.

[To be continued.]

THE CHOLERA IN IRELAND.

The accounts from the west are highly favourable, the disease having nearly altogether disappeared from those localities where its ravages were most severely felt. There are, however, some traces of it still lingering in the town of Athlone. Among the victims has been Quartermaster Tarleton, of Her Majesty's 4th Light Dragoons, forming part of that garrison. The gallant officer expired on Friday, after an attack of 16 hours' duration.

There have been since yesterday several cases of cholera reported in Dublin and its suburbs, one or two of which terminated fatally. A competent medical authority gives us his opinion, founded upon considerable experience, that the present pestilence is of a much more malignant type than that of 1832, but that it is scarcely, if at all, epidemic; and that, although the disease has been hovering about the metropolis for a period of six weeks, the numbers attacked have been comparatively few. If not taken in time, death is in four cases out of five the inevitable result, as the collapsed stage immediately follows the first symptoms, and the recovery is then all but hopeless. By the adoption of timely precautions, on the contrary, dangerous consequences have been almost invariably averted.

The mortality has been almost wholly confined to the lowest classes, the residents of the courts and lanes, which are rarely free from disease of some type or other. It is also reported that the pestilence has again broken out in the Queen's Royals, now lying encamped in the Phœnix-park. The barracks in Ship Street have been fitted up as a temporary hospital for the reception of military patients.

OBITUARY.

On the 30th ult., at the residence of his friend, Spencer Freeman, Esq., Stowmarket, William Copperthwaite Clough, Esq., surgeon, aged 40.

MEDICAL GAZETTE.

FRIDAY, JUNE 8, 1849.

THE old saying, *cuique in suâ arte credendum*, appears to be losing its practical value so far as the medical profession is concerned. We should hardly look with confidence upon a Report on the law of Entails or on the intricate subject of Escheats, signed by the Master and Wardens of the Worshipful Society of Apothecaries: and we much doubt whether the reformed House of Commons could be persuaded to make such a report, if issued, the basis of serious legislation. Within the last week, however, the Board of "Works" has made an attempt to direct legislation on a subject which has given rise to the greatest differences of opinion among learned and experienced medical men. Since the disappearance of cholera, it appears that the Members of the Board have been directing their attention to "the relief of commerce and the freedom of locomotion," and they have rushed, with what the "Times" describes as "an enlightened boldness," to a series of conclusions denying the possibility of the importation of Oriental plague and other formidable diseases, and advising the *immediate discontinuance* of the existing Quarantine establishments.

The first question which naturally arises in reference to the report is, who are the reporters, and what are their qualifications for giving advice on a subject of such great national interest? The document is signed by Lords Carlisle and Ashley, Mr. Chadwick, and Dr. Southwood Smith;—two noblemen, a barrister, and a gentleman whose name seems to give a *quasi*-professional character to the manifestoes issued by the Board. As to their qualifications, three of them are not in any way connected with the medical profession, and, except upon the *lucus a non lucendo* principle, they must be wholly disqualified from pronouncing a safe opinion on contested medical doctrines and theories. Not one of the four has the slightest practical acquaintance with the subject of Oriental plague. They pin their faith upon hearsay statements, or upon those selected reports which appear to favour their preconceived views of the uselessness of quarantine establishments. This will account for the boldness of their conclusions: they have no direct knowledge of the circumstances under which plague is propagated: they have never visited plague countries, and are quite willing to be guided by Dr. Laidlaw or any other physician who may happen to be an advocate for freedom of intercourse and the removal of the inconveniences to which Oriental travellers are now subjected. The entire discontinuance of quarantine is, however, a question of serious national importance, and must not be settled by conclusions drawn from one-sided reports by men who have not had the benefit of a medical education.

Among the worst features of this document are the sophistry and bad reasoning which pervade it. The Members of the Board wish to be very precise about the etymology of *contagion*, and accordingly give us an account of the signification which they attach to the word. The Board understand by contagion the communication of a disease only by touch or contact, whereas the sense in which it is commonly employed is, the communication of a disease either by *personal contact* with the sick, or by *effluvia* evolved from the diseased body. The Board, however, insist that typhus fever is not contagious, and may be infectious; while syphilis and itch are contagious, but not infectious diseases!

"There has been much confusion of terms in respect to the use of the words contagion and non-contagion. We have had instances of professional men who avowed their belief of the contagiousness of typhus, and stated that they had experienced it in their own persons. When asked for the evidence on which the belief was founded, they have usually related some circumstances such as those above described, showing, not the contagiousness, but the infectiousness of the disease. Contagion is a term applicable to a different set of circumstances. According to the hypothesis of contagion, no matter how pure the air, no matter what the condition of the fever ward, if the physician only feels the pulse of the patient, or touches him with the sleeve of his coat, though he may not catch the disease himself, he may communicate it by a shake of the hand to the next friend he meets; or that friend, without catching it himself, may give it to another; or if the physician wash and fumigate his hand, but neglect the cuff of his coat, he may still convey the deadly poison to every patient whose pulse he feels during the day. If this were so, the track of a general practitioner who attends one patient labouring under a specific epidemic disease would be marked by the seizure of the rest of his patients; if it were true of cholera and typhus, some members of this board must have fallen by these diseases, who from morning until night received inspectors that came from places where these epidemics were rife; and if any disease of common occurrence really possessed such powers of communication and diffusion, it is difficult to conceive how it is that the human race has not been long since extinguished. To assume the method of propagation by touch, whether by the person or of infected articles, and to overlook that by the corruption of the air, is at once to increase the real danger from exposure to noxious effluvia, and to divert attention from the true means of remedy and prevention. It is not in human power to take from any disease the property of contagion, if this property really belong to it; but it is in our power to guard against and prevent the effects of any contagion, however intense; and it is equally in our power to avoid communicating to common disease an infectious character, and aggravating it into pestilence" (p. 47.)

We invite our readers to consider whether the Reporters have in this description fairly dealt with the subject of contagion as it is understood by medical men. The purity or impurity of the air, and the condition of a fever ward, are really important conditions in reference to the communicability of disease, and are admitted to be such by all who have watched the progress of contagious diseases. The supposed transmission of cholera and typhus by feeling a pulse or touching the coat of a patient,—and the track of a general practitioner being marked by the seizure of all the patients he may happen to visit,—is one of those *ad captandum* illustrations which shows that the report is rather intended as an appeal to the ignorance of the public, than for the instruction of medical men. The reporters first invent an objection, and then triumphantly refute it! There is no disease, either of common or uncommon occurrence, possessed of such powers of communication and diffusion as those above supposed. A physician visiting a patient labouring under scarlet fever has been known to transfer the disease to another patient, but not to every one whom he has visited or shaken by the hand. Further, it is not necessary to determine in such a case whether the disease was communicated by actual contact or by morbid effluvia imbibed by the clothes. All that we require is the fact: the frequency of the occurrence, and the circumstances which may interfere with such transmission, are perfectly distinct questions. Accoucheurs well know the danger which they incur by attending a female in parturition, soon after they have visited one labouring under puerperal fever: whether this arise from contagion or infection, we will leave the Board to settle,—the fact is, however, undeniable,—the *materies morbi* is in some way transmitted by an individual who experiences no ill effects from the poison of which his clothes or skin may become the vehicle!

In this Report, the importation of a disease like fever is treated as a "delusion." The creation of the disease is attributed to over-crowding, filth, and atmospheric impurity: it is never infectious *per se*, but becomes so by a neglect of what are called sanitary precautions. This is according to the doctrine in the earlier manifestoes of the Board of Works, in which it is asserted that wherever animal and vegetable matters are in a state of decomposition, a poison is generated capable of producing fever or other epidemic disease! The Edinburgh College of Physicians have justly objected to this unqualified statement, on the ground that if it were true, many parts of that city—and the same may be fairly said of other towns and cities—would be constantly the "seat of fever or other epidemic disease." The contrary is notoriously the fact: hence the "putrescent theory" fails to explain the phenomena. The diseases which are supposed to be created by causes *constantly* in operation, prevail only *occasionally*; and when they do prevail, "their origin may be traced to *importation* from places previously affected, and their extension to the effluvia arising from living subjects applied directly or indirectly to those who become successively affected."* It is precisely this statement of facts, as given by Drs. Christison, Alison, and other eminent professional men, which Lords Carlisle and Ashley treat as a "delusion!" The commercial public will probably join with the latter, inasmuch as this non-medical view of the case is likely to lead to the abolition of the restrictions now placed on commerce by the maintenance of quarantine laws. The profession will, however, rather adopt the views of Drs. Christison and Alison, for the simple reason that they are in strict accordance with sound medical experience and observation.

We subjoin the principal conclusions at which the members of the Board of Health have arrived.

"That the chief pestilence in respect to which quarantine establishments have been kept up in this country, the Oriental plague, is, in its antecedent circumstances or causes, in the localities, classes, and condition of the population attacked, and in its rise and progress, a disease of the same essential character as typhus, being, according to the most recent authorities who have had practical experience of the malady, a form of that disease modified and rendered more intense by peculiarities of climate and of social condition.

"That the notion of the propagation of the plague by the means of goods, appears from one uniform mass of evidence to be as entirely unfounded as the opinion which formerly prevailed in this country, that typhus could be propagated in the same mode.

"That the true danger of the propagation of plague is not by contact of the affected with the healthy, but by exposure on the part of susceptible subjects to an infected atmosphere under the like conditions which are known to produce and propagate typhus fever in this country.

"That the quarantine establishments in this country, and every other of which we have information, are wholly insufficient, even on the assumption on which they have hitherto been maintained, to prevent the introduction and spread of epidemic disease.

"That these establishments are of a character to inflict on passengers extreme and unnecessary inconvenience, and to subject such of them as may be sick to increased suffering and danger, while they maintain false securities in relation to the means of preventing the spread of disease.

"That typhus and other dangerous epidemic diseases are frequent on board merchant-seamen vessels at sea and in port, for which no effectual or suitable provision is at present made.

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* See our number for May 25, page 900.

"That as far as relates to the cases of epidemic diseases generated at sea, the principle of the concentrating of responsibility on the shippers, in making it their pecuniary interest to complete the voyage with healthy passengers, operates most effectually in the cases where it has been applied,—such as to emigrant, transport, and convict ships, and should be extended to all cases; and, that in respect to ships in port, the regulations applied to the prevention of the spread of epidemic diseases from houses in towns are applicable, and would practically be highly beneficial.

"That the substitution of general sanitary regulations, to ships in port, for the existing quarantine regulations, would far more effectually extinguish epidemic disease, and afford better protection to the uninfected on shipboard, whilst it would relieve passengers and crews from grievous inconvenience, abate the motives for concealment of sickness, and for false representations as to its nature, greatly lessen commercial expenses, and remove obstructions to the free transit of goods and uninfected persons which the existing system of quarantine occasions.

"It follows that we propose *the entire discontinuance of the existing quarantine establishments in this country, and the substitution of sanitary regulations.*

"By such substitution the most effectual security which the present state of knowledge affords, would be taken against the importation of foreign contagion, the maintenance of infection, and the origin and spread of epidemic disease.

"We believe, from such information as we have been able to obtain, that the *immediate adoption* of the changes which we now recommend, would be attended with no difficulties or inconveniences commensurate with the advantages that would accrue from the relief to commerce, the freedom of international communication, and the security of the public health.

"All which we humbly certify to your Majesty. (Signed)

"CARLISLE,
"ASHLEY,
"EDWIN CHADWICK,
"T. SOUTHWOOD SMITH."

Among medical men this Report will have no weight; but as there is in the present day a strong desire to try experiments in legislation, it would not surprise us if a bill based on these conclusions were introduced into the House of Commons during the session. We shall take an early opportunity of showing that if the views of Lords Carlisle and Ashley and of Mr. Chadwick, on the subject of Oriental Plague, are to be made the basis of an Act of Parliament for abolishing Quarantine, we must be prepared to take upon ourselves the risk of importing fatal diseases, and of causing other nations, which have no Boards of Works to mislead them in medical matters, to suspend intercourse with us. It has been truly observed, that the laws of Quarantine differ from all other laws in their operation and effects: they are general, not partial. One nation cannot throw them off without suffering in its commerce from the restrictions imposed by other nations. The reporters probably imagine that our example may work wonders in continental countries; but in this they will be disappointed. Their views and doctrines have not the assent of men most competent to form a judgment in such matters; and hence, if carried out, in leading to the relief of our commerce in one direction, they will increase the restrictions upon it in others. Against this questionable gain we must set the possibility of a disease being imported, the mortality from which may prove that a non-medical Board of Works is a bad substitute for a properly constituted Board of Health.

WE have lately been informed of an instance in which, by the aid of the Medical Directory, four medical impostors have been detected and exposed. It may not be unknown to our readers, that many quacks are supported in their practice and shielded in their delinquencies by persons who describe themselves under the designation of M.B. These persons are unconnected with any University, and have no right to append these letters to their names. They presume, however, upon the ignorance of some and the indisposition of others to inquire into their right, thus to describe themselves as members of the medical profession, and they are often successful in carrying out the imposition. The annual publication of a Medical Directory has to a certain extent checked the proceedings of these abettors of quackery; and in the instance referred to, this useful work has been the means of undeceiving the inhabitants of a large and populous town respecting the characters of these medical pretenders.

Occurrences of this kind show that no Medical Registration Bill can be complete which does not severely punish any one who falsely assumes a title implying that he is licensed to practise medicine.

We refer those who are sanguine about an early settlement of the Medical Reform question to a short article in the current number of the *Pharmaceutical Journal.** If they do not agree with the writer, they will at any rate be interested with the clever way in which he makes out that there are nine different quarrels or disputes which have to be adjusted by concession or otherwise, before there can be the prospect of an amicable settlement. The summary which he gives tends to create a feeling of despair; for any one of these disputes is of itself sufficient to defer the question *sine die.* There is no getting at the wishes of the majority; and it is this which naturally makes the Government averse to interfere.

While the Lord Advocate is preparing to reform the profession by a Registration bill, one section is arming itself for resistance, from a suspicion that the said measure may not embody those views which *it* conceives to be indispensably necessary for professional regeneration. There is the cry of opposition before there is anything to oppose. Of the Lord Advocate's agreeable position as a medical reformer, our contemporary justly remarks—"Strong must be the nerve, and indomitable the perseverance, of the man who, under existing circumstances, can face the question, and great will be the credit due to him if he should succeed in his praiseworthy endeavours."

If any bill should be introduced, we do not see the possibility of its being carried during the present session. There is certainly at present no necessity for taking up an armed resistance. The Government will not sacrifice the interests of one half of the profession to the absolute domination of the other. It would rather leave matters in *statu quo.*

A short discussion on the Medical Bill took place in the House of Commons on Monday evening. We subjoin an extract from the proceedings.

> "The Marquis of Granby asked the Lord-Advocate whether it was his intention to embrace in his promised Medical Bill, or by any other means to make an alteration in the existing charter of the Royal College of Surgeons of England, as well as of the Royal College of Physicians of London, by which the grievances that the great body of its members have complained of, and petitioned against, should be redressed.
>
> "The Lord Advocate was understood to reply, that it was not intended to make any alteration in the charter of the Royal College of Surgeons of England, but that he believed it would be necessary to make some alterations in the charter of the Royal College of Physicians of London.
>
> "The learned Lord, in reply to Mr. Wyld, also stated that he would make the best haste he could in introducing the bill for the amendment of the laws relating to the medical profession."

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* June 1849, p. 553.

CLINICAL LECTURES
ON THE
PHYSICAL DIAGNOSIS OF PHTHISIS.

Delivered at the Hospital for Consumption and Diseases of the Chest.

By Richard Payne Cotton, M.D.
Member of the Royal College of Physicians, London; Assistant-Physician to the Hospital.

Lecture IV.

The first stage (concluded).—Bronchophony—its position and modifications in health—rules for ascertaining if morbid, and the value of the latter—Bronchial cough—Situation of the heart's sounds—their healthy limit; and employment in the detection of phthisis — Subclavian murmur—its usual cause; accidental production; and relation to tubercles—Recapitulation of the physical signs of the first stage.

The condition of vocal resonance communicated either to the ear placed directly on the chest, or through the stethoscope, whilst the patient is speaking (bronchophony), is an additional sign of some value, but mainly so as confirmatory of the preceding, since it can scarcely exist to any degree as a morbid state, unaccompanied by other evidence of physical change in the lung. It is best ascertained by directing the person to count up to any given number, in a distinct and rather loud voice, twice over, during which, each side may be examined under similar circumstances.

Bronchophony is found naturally in some parts of the chest, assuming many varieties both in position and degree. In all persons it is heard, often very loudly, on the sternum, and in the interscapular region, over the larger bronchi, and with less intensity in the supra-clavicular spaces: in most persons it occurs as a distant and indistinct sound in all parts of the chest, being louder in the upper than the lower regions, and before than behind: very frequently it is more audible throughout the right than the left lung, but always so in the supra- and infra-clavicular regions. The character of the voice, and the thickness of the thoracic walls, have considerable influence in its modification: in many females, and frequently in young children, it is scarcely audible (unless over the bronchi), from weakness of voice; and the same often happens in males, from extreme muscular development; and from various combinations of such circumstances, the greatest variety is met with,—the only constant rule being, that when it exists, it is most audible beneath the right clavicle.

When it is the result of disease, one of two pathological conditions is declared—either a portion of the lung is consolidated, and the sound of the voice thereby better conducted to the surface, or a bronchial tube is considerably dilated. Although the latter is a comparatively rare affection, it is possible to lead to erroneous diagnosis, since percussion in both cases furnishes the same result—viz. more or less dulness*; but the history of the case, and the state of the patient, would in most instances declare the real nature of the disease.

Morbid bronchophony varies in intensity, and is sometimes so loud as to be positively painful to the ear, but in other respects it is not distinguishable from the natural type, and oftentimes can be called morbid only from its position. It is in the neighbourhood of the clavicles, and in the supra-spinous regions, that its importance lies in connection with phthisis: if found equally loud on the two sides, the left is probably morbid; if there be any excess on the left, it is undoubtedly so; but a greater amount on the right is unimportant, unless it be very considerable, when tubercular disease may be suspected. Bronchophony seldom appears until the first stage is somewhat advanced, and, in the great majority of instances, is accompanied with bronchial respiration: but this is not necessarily the case; for often it is distinctly marked when there is merely a slight dulness and resistance on percussion, and the respiration is weak or jerking. When once established, it will generally continue, but, under proper treatment, may sometimes be lessened; too frequently, however, it increases, and passes by insensible degrees into pectoriloquy, which, as a sign of the third stage, will be considered hereafter. On the whole, I consider bronchophony, compared with other physical signs, as of secondary importance, from the circumstance, that in health it is subject to great variation, and in disease is usually accompanied by evidence far less equivocal; but cases may sometimes occur in which it may be brought into use as a not unimportant auxiliary.

If a patient exhibiting bronchophony, instead of speaking, be directed to cough, a sound (bronchial cough), varying in intensity, and often most painfully loud, will be communicated to the ear. Similar remarks will apply to this as to the bronchial voice, or bronchophony, and, for the same reasons, its importance may be estimated at the same amount. I confess that I rarely employ this sign, simply because there are others more easily recognised, and less liable to variation; but when the case is obscure, and our diagnosis must depend rather upon the coincidence of a number of symptoms, than the unequivocal character of any one, its employment may be useful.

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* In some instances of dilated bronchi, a clear sound attends percussion; but this is the exception.

The extent of the heart's sounds is another sign, and of some importance, as it may be used when others are ill-developed, and at an early period of the disease. The position in which they are heard in healthy individuals varies considerably, but, as a general rule, may be thus stated. In adults with well formed chests, they are distinct only immediately over the heart, but may be detected more or less over the greater part of the left side, particularly in the vicinity of the large vessels; but in the infra-clavicular region they are rarely sufficiently loud to interfere with the auscultation of respiration, and generally escape observation, unless particularly attended to. Over the whole of the right side, however, they are almost, if not quite, inaudible. In nervous persons, and particularly hysterical females, they are often audible over the whole chest, varying in loudness according to the distance from the heart. The same thing may occur to some extent in aged persons, and those whose thoracic walls are much emaciated. When the lung is consolidated, the sounds may be conveyed to any distant spot, and thus their occurrence in either infra-clavicular region, when inaudible in other parts equally distant from their seat of origin, is, under certain rules, presumptive evidence of phthisis. If heard at all on the right side, unless the heart be beating very strongly, suspicion should be excited, even if the other side be in the same condition. When there is any excess beneath the right clavicle, it is a pretty sure indication of tubercle, but a similar discovery under the left is of little importance, for, if unattended by other signs, it would probably be natural; whence it follows, that this sign is chiefly available in examining the right lung, being exactly contrary in this respect to vocal fremitus.

It is necessary to recollect that aneurismal and other tumors, and many diseases of the heart, cause an extension of the sounds, but these have their distinctive marks; the preceding observations applying only to cases in which the organs of circulation are known to be unaffected. I do not consider the heart's sounds so important as to declare the non-existence of tubercle by their absence, or even by their presence under apparently morbid circumstances, but unattended by other signs, to justify our pronouncing a patient phthisical; but, taken with other evidence, they may be often turned to useful account.

A murmur of the subclavian artery, generally of the soft and blowing kind, but sometimes rough or rasping, is enumerated amongst the signs of the first stage of phthisis, but is not of sufficient importance to merit much confidence. It is natural to suppose that any thickening of the pleura, or consolidation of the lung about its apex, might be so related to the subclavian artery, as to cause its compression to a slight amount, and give rise to a murmur; but I am disposed to think such an occurrence rarely takes place, and that when a murmur really exists, it is generally due to other causes.

Arterial and venous murmurs, independent of structural change in the heart or blood-vessels, are owing to anæmia, or that peculiar nervous and dyspeptic condition chiefly occurring in males, in which the larger arteries, and especially the abdominal aorta, are so influenced, as often to give rise to the suspicion of an aneurism. In all such cases a murmur may be heard on one side, without being discovered in the corresponding artery of the other side (although it is more commonly found in both); and when it is recollected how very numerous are such patients, it is manifest, that a murmur in either subclavian artery can have but little value in the diagnosis of phthisis. But when it is evident that a patient has been hitherto healthy and robust, and there is a subclavian murmur on one side, without any abnormal sound in any other part of the circulatory system, it would, to other signs of phthisis, form additional evidence; but such cases, I believe, will be rarely met with. Where, from the state of the system, there is a tendency to arterial and venous murmurs, one may be often made unintentionally, by pressing too firmly with the stethoscope,—a circumstance detracting much from their diagnostic value.

I have found a few cases of early phthisis, in which, whilst no murmur was audible during ordinary respiration, one became manifest by deep inspiration, and remained so until the lung was again contracted; which may have been produced by the indurated part coming in contact with the artery as the lung expanded; but having since met with the same phenomenon in persons quite free from tubercle, and believing, that great distension of a sound lung in an anæmic, or even a perfectly healthy person, might cause a murmur by producing slight pressure upon the artery, or changing its position, I am not disposed, as at first, to place much confidence in it.

Having now completed the consideration of the physical signs of the first stage, I may remark that every possible variety will be encountered in their association and sequence; one patient may afford sufficient proof of the disease chiefly on percussion; another, by the character of respiration, or the presence of rhonchi; a third, by thoracic vibration and vocal resonance; and a fourth may have the whole of these combined. The amount and situation of the tubercles, the state of the patient, and the period of the stage, will, perhaps, account for such diversities.

I shall now briefly recapitulate, by an imaginary description of the examination of a patient in the first stage of the disease.

A person presents himself with some one or more of the general symptoms of consumption, but too obscure and equivocal to determine the real nature of his malady. Upon examining his chest, it is possible that one side may be found slightly bulged beneath the clavicle; but more probable, either that there is no visible difference in the two sides, or that one is somewhat more depressed than the other,—in other words, that one clavicle appears to stand out more than its fellow. Either of these excite suspicion, but is not sufficiently important to justify any conclusion, and we proceed further. We watch the ordinary movements of the chest, and direct the patient to take a full inspiration, when, perhaps, the upper regions of the two sides are not equally expanded, and if the diminution correspond with the preceding sign, there is reason to suspect phthisis; but as it will generally happen that no very evident difference is discoverable, we proceed onwards in the examination. Upon the suspected part we place the hand lightly, whilst the patient speaks, when there may be an increase of vocal fremitus;—or we ascertain whether the heart's sounds are unduly conducted to that point, recollecting that the former is chiefly applicable to the left side, and the latter to the right;—or we listen for a murmur in the subclavian artery, taking care not to place too much reliance upon its discovery. We then percuss, and find more or less dulness and resistance above, upon, or beneath the clavicle, or in the supra-spinous region. It may be that we have now the first indication of the disease, most of the preceding signs having been deficient; but should ordinary percussion be somewhat doubtful in its results, we order the patient to take a deep breath, and percuss whilst he is holding it, when a difference is perhaps more readily detected.

The stethoscope now comes to our assistance to determine the value of the previous evidence: the respiration is found weak or jerking; the expiration is prolonged beyond its healthy limits; or perhaps the case is sufficiently advanced to render it harsh, or even bronchial. It is possible that we now discover the pulmonary crumpling sound, but its absence is unimportant; and very likely there are a few dry crackling rhonchi. If it should happen that our patient is suffering from bronchitis of the larger tubes, we must not be too hasty in arriving at a conclusion; but if the smaller bronchi only are implicated, we shall find subcrepitant rhonchi either all over the suspected side, or chiefly seated in the upper lobe. A friction murmur may perhaps be heard at the apex; and it is just possible, even the fine crepitation of pneumonia. If further proof be desirable, from the absence of some of the preceding, we direct the patient to speak or cough whilst the sthethoscope is applied, when bronchophony or bronchial cough may be present.—And thus have we arrived at the positive conclusion that our patient is in the first stage of tubercular disease.

In the next lecture I hope to include all the physical signs of the second stage.

A CASE OF DELIRIUM TREMENS INDUCED BY THE INORDINATE USE OF TOBACCO.

BY W. A. GORDON, M.D., OF HARRISBURG, MO.

Last spring, while on a visit to my relations in the southern part of Kentucky, I met with the following case of delirium tremens:—The patient, aged 71, had been smoking tobacco to great excess for a number of years. At length, a short time before I saw him, he resolved to abandon the use of it altogether. The day on which he formed this resolution he smoked, in quick succession, nine cigars, which was followed by considerable nausea and giddiness for three days. These symptoms then passed off, and his health for a short time seemed better than usual; but after this brief interval he fell into a lethargic state, from which he was with difficulty aroused. This condition was succeeded by the symptoms of a true delirium tremens. He was wakeful, agitated, talkative, and alarmed at imaginary objects around his bed. His pulse was about 85 a minute, full and soft; countenance dejected, with a wild confused look; skin cold and moist; bowels constipated; tongue moist, and slightly coated.

I am not able to report the termination of this singular case, as I left the neighbourhood soon after I saw the patient, but as having a physiological interest, I will mention two phenomena which were reported to me in connection with it.

1st. The patient previous to this attack had been hard of hearing. While labouring under it his hearing became excellent.

2d. He had also laboured under some difficulty of speech for a number of years, owing to what seemed a partial paralysis of the tongue. When the derangement of the cerebral system came on, he recovered the use of his tongue, and was able to speak distinctly and rapidly.—*Phil. Med. Examiner.*

Reviews.

Thoughts on Pulmonary Consumption; with an Appendix on the Climate of Torquay. By **William Herries Madden**, M.D., Physician to the Torquay Infirmary, &c. Small 8vo. pp. 219. London: Churchill. 1849.

This work, by its intrinsic merits, differs widely from the majority of treatises on pulmonary consumption. Its character may be gathered from the following extracts from the preface:—"It has no pretensions to the character of a systematic dissertation on phthisis. The unapproachable researches of Louis, the classical treatise of Sir James Clark, and the admirable article of Dr. C. J. B. Williams, are each in its own particular way so perfect, that to attempt another would be an effort little likely to succeed."

And yet it is not a mere congeries of disjointed thoughts.

"I have traced out, and that with some minuteness of detail, the analogies which exist between tubercular and many other diseases, all of which appear to me to have their origin in the same class of causes, viz. morbid poisons; and have endeavoured to show that, by the adoption of this hypothesis, we can give a more natural and more satisfactory explanation of the phenomena than is possible upon any other supposition."—pp. vii. ix.

Dr. Madden's views have already appeared in the pages of this journal, New Series, vol. v. pp. 282, 458, 494. The work before us contains an amplification of these views, and treats the subject under the following heads:—Part I. 1. Chemistry of tubercle; 2. Histology of tubercle; 3 State of the blood in phthisis; 4. State of nutrition in phthisis; 5. Identity of tubercular and scrofulous diseases. Part II. The manifested disease. 1. The forms and varieties of phthisis; 2. Symptoms; 3. Analogy with diseases arising from morbid poisons; 4. Diagnosis; 5. Treatment.

It is sufficient for us to observe, that all these points are, in our opinion, argued according to strict induction, derived from the careful collection and comparison of the latest scientific facts and investigations. We quote the author's conclusions from his comparison of the phenomena of phthisis and of morbid poisons, as conveying at the same time his pathological views in relation so phthisis.

"There are the same extensive functional disturbances—the fever, the profuse unhealthy sweats, the disordered secretions, the emaciation, the prostration,—and the same wide-spread organic alterations. Must not the causes of effects so similar, be themselves similar? Must they not, to say the very least, have something in common in their nature? I believe that this is really the case, and that scrofula, with its highest and most formidable manifestation, phthisis, is as much a poison disease as any of those others with which we have been concerned in the former part of this section. I believe that the observed phenomena depend upon the circulation of a peculiar specific *materies morbi* in the blood, and that the tubercle itself results from the special modification of nutrition induced by that particular poison, and by that alone," p. 100; and "the reason why the lungs are so generally and so early invaded, may be in part found in the existence of a special affinity between those organs and the poison of tubercular disease."—p. 120.

The author's observations on diagnosis and treatment are peculiarly valuable, as being the result of careful study and research, combined with the extensive experience which his field of labour so abundantly affords.

We consider that this work is a valuable contribution, and likely to lead to more intimate acquaintance with the real nature of phthisis, on which alone correct indications of treatment can be based.

Dr. Madden's Appendix establishes, from accurately compiled statistical tables, that "the most important feature in the climate of Torquay is its *equability*, both as regards the temperature and the humidity of the atmosphere."

Parturition, and the Principles and Practice of Obstetrics. By W. **Tyler Smith**, M.D., London. Small 8vo. pp. 395. London: Churchill. 1849.

Dr. Tyler Smith has here made the attempt, and we think with great success, to place the obstetric branch of medicine on a physiological basis. This basis is the theory of the reflex functions of the true spinal cord. More extended observation is doubtless required to confirm or complete some of the author's positions; but, taken as they at present stand in the volume before us, Dr. Smith's applications of human and comparative physiology to the phenomena of parturition and the practice of obstetrics, have done much to bestow upon this branch of medicine a scientific character, and at the same time to improve its practice.

It would be impossible for us, in the space that we can devote to a critical notice, to place before our readers a satisfactory outline of the author's views. We shall better perform our duty towards both by giving a short description of some of the most important subjects treated in this volume.

Among these are,—the reflex-motor action of the uterus in pregnancy and parturition; the nervi-motor action of the Fallopian tubes in menstruation, coitus, conception, and parturition; the reflex actions of the vagina; the history of the ovular theory of menstruation; the ovarian theory of the cause of labour; the nervi-motor causes of abortion; the reflex physiology of labour; the great genesial cycle of reflex relations between the ovaria, uterus, and mammæ; the theory of periodicity of menstruation, parturition, and lactation; the first extra-uterine phenomena and changes in the fœtal circulation; the applications of reflex theory to obstetric pathology and therapeutics during labour, in hæmorrhage, puerperal convulsions, &c. All these branches of the subject, and many others which we have omitted to name, are brought under the closest scrutiny by the aid of improved physiology and extensive practical knowledge.

An attentive study of Dr. Smith's lectures cannot fail greatly to enlighten both the physiologist and the obstetrician. We say this from a conviction of the great value of the author's practical views, without pledging ourselves to the correctness of all Dr. Smith's applications of the reflex theory.

ANNUAL REPORT ON VACCINATION IN ENGLAND.

We subjoin a copy of the report of the National Vaccine Establishment, for the year 1849-49, addressed to the Secretary of State for the Home Department:—

"*To the Right Hon. Sir George Grey, Bart., M.P., Her Majesty's Secretary of State for the Home Department.*

"May 26.

"Sir,—The Board have the satisfaction of reporting that their foreign and domestic correspondence continues to furnish testimony of the efficacy of vaccination in the great majority of cases.

"During the past year 174,991 charges of lymph have been distributed, and 11,790 children have been vaccinated by the surgeons appointed in the London districts. The Board have likewise received returns of 88,482 cases vaccinated with lymph sent from the office of the National Vaccine Establishment.

"The Board have furnished large supplies of lymph for the use of the army and navy, and they rejoice that it thus falls in the course of their duty to transmit the genuine lymph to a large body of men amongst whom it is almost impossible to keep up a self-supply.

"In consequence of an alarming prevalence of small-pox in several of the West India islands, orders have been received from the Under-Secretary of State for the Colonies that lymph should be forwarded by every packet in addition to the usual periodical supplies. The Board have complied with these directions, and intelligence has been already transmitted to them of the great efficacy of the lymph so sent.

"A large supply of lymph has been forwarded to Aden and to Scinde. The Board have thus the satisfaction of returning the real boon of protection to that quarter of the globe whence the palliative measure of inoculation was first introduced into Europe.

"Possessing that valuable boon, the Board regret that, according to accounts they have lately received, the practice of inoculation should still partially prevail in one part of the United Kingdom, viz. Ireland. On the other hand, it is encouraging to them to recur to the enlightened expressions used by the Lord Chief Justice of England on the illegality of the practice in this country, and they trust that the influence of so sound a judgment may be extended throughout Her Majesty's dominions.

"We have, &c.,

"John Ayrton Paris, M.D.,
President of the Royal College of Physicians.
"Edward Stanley,
President of the Royal College of Surgeons.
"James Alderson, M.D.,
Senior Censor of the Royal College of Physicians.

"Countersigned by C. Hue, M.D., Registrar."

Proceedings of Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Tuesday, May 26, 1840.

MR. MACILWAIN, VICE-PRESIDENT, IN THE CHAIR.

Table of 166 *Cases of Secondary Syphilis observed at the Lock Hospital, during the Years* 1838-39. *With a Statistical Analysis, and Observations.* By HENRY LEE, F.R.C.S., Assistant-Surgeon to King's College and the Lock Hospitals.

IN the analysis given of these cases, it was shown, that out of the whole number (which were taken consecutively, as they presented themselves) a very small proportion had been properly treated by mercury; and it was argued, that if proper mercurial treatment were not a preventive of secondary syphilis, cases where this medicine had been properly employed, and had failed to cure the disease, would have presented themselves among the rest. "If," observes the author, "in the present day it should be found that out of 100 patients presenting themselves with small-pox, a very small proportion only had ever been vaccinated, this negative evidence in favour of vaccination would carry with it as much weight as would attach itself to the histories of any number of vaccinated persons who subsequently remained free from small-pox." In like manner the author endeavours to prove that the very small proportion in which cases of secondary syphilis occurred, after proper mercurial treatment, was an undeniable evidence of the efficacy of that medicine. The cases in the table were arranged into those which were treated by mercury, and those which were not; and each class was again subdivided into those where the primary ulcer was accompanied by induration, and those in which this had not been observed. From a comparative view of these cases, it appeared that where mercury was given ineffectually, so as not to eradicate the disease, it favoured the formation of bubo, and that, moreover, the class of secondary symptoms which followed was of a more severe nature than where no mercury had been given. The papular and scaly eruptions were observed most frequently when the disease was allowed to run its course, but the pustular and tubercular were most frequently noted where ineffectual mercurial treatment had been had recourse to. The author supposed that injudicious mercurial treatment had a tendency to convert the papular eruption into the pustular, and the scaly into the tubercular, and that, if a sufficiently large number of cases were taken, the proportion in which this would happen would be alike in each class of cases; so that it might be stated that the papular eruption would bear the same proportion to the pustular as the scaly would to the tubercular.

Mr. B. COOPER said that the author had blinked the question as to what was really to be considered a syphilitic sore; and had rather described the effects of mercury on the constitution, than on the sore itself. Now mercury in one form might be highly injurious to the constitution, whilst in another form it might be most beneficial to the sore. It certainly was most difficult to determine what was a true syphilitic sore; although he himself had not found that difficulty to its full extent, until he had read M. Ricord's work; and he now agreed with that author, that the sore was so modified by the constitution of the patient that we could not determine that it was syphilitic, except it had the power of producing a similar sore in some other part of the body by inoculation. It was rare, indeed, that mercury could not be given when this result could be obtained; not, however, always in one form; sometimes one preparation, sometimes another, was necessary, and sometimes calomel with opium. This would mainly depend on the state of the constitution. How could we determine in doubtful cases except by inoculation?

Mr. HENRY LEE said that there was another way in which we could determine the nature of a primary sore, and that was by its power in producing secondary symptoms. All his (Mr. Lee's) cases were those in which secondary symptoms presented themselves, and therefore there could be no mistake.

Mr. COOPER replied that he wished to know how you would determine the nature of the sore before the system became contaminated. He was not one of those who thought it mattered not to the safety of our patient, whether we treated him early or late for syphilis—for the primary or the secondary disease: on the contrary, he thought that the earlier the disease was treated, the better, and therefore he wished to get rid of the primary disease as soon as possible. But he might say also, what are secondary symptoms? A train of similar symptoms might arise independently of a primary syphilitic sore. On this point he differed with M. Ricord; for did we not, after gonorrhœa, see all kinds of secondary symptoms present themselves? He knew that in these cases M. Ricord said that there must have been a chancre in the urethra, but this point was at least not proven. Every person must have seen these anomalous cutaneous diseases, as the result of gonorrhoea. Mercury did not cure, but aggravated these cases, for they generally occurred in a scrofulous constitution, and gave way before iodide of potassium and similar remedies.

Mr. **ACTON** was desirous of asking the author of the paper whether he rightly understood him to say that indurated chancre was seldom attended by bubo? If Mr. Lee had found by his statistics that a single inflamed or suppurating gland in the groin was a rare attendant on indurated chancre, he (Mr. Acton) quite coincided with him; but if, on the contrary, the statistical tables which had been read this evening went to prove that enlargements of the inguinal glands in the groin were of unfrequent occurrence in indurated chancre, he (Mr. Acton) must express his dissent from the position. Daily experience convinced him that this co-existence of indurated chancre with enlargement of several glands in the groin, was the rule, not the exception; and, as a well-observed fact, it was of vital importance in a practical point of view. In the first place, if the groin were carefully examined, one or more glands would be usually found indurated and enlarged to the size of a horse-bean. When so enlarged, the surgeon may feel certain that he has to treat a specific sore, not one the result of irritation. He need not tell the fellows of the Society that corrosive sublimate, or other irritant, might induce a simple sore to simulate indurated chancre; but it would not cause enlargement of the glands above alluded to. He must differ from the author of the paper in believing that the induration was a process of nature set up to limit the disease; as, together with induration of the chancre, the glands were likewise affected, and the induration, in his opinion, proved that the system was already affected. He would cite, as additional evidence, that if the induration be removed entirely by the knife (as can be done in the prepuce), the edges of the wound will often take on the same hardened structure. Mr. Acton would likewise ask Mr. Lee if he understood him to recommend a course of mercury of four weeks' duration in the treatment of sores? As a general rule, he (Mr. Acton) was fully convinced that all unindurated sores would get well, and did not require mercury either generally or locally, and little dread of secondary symptoms need be apprehended. He felt equally certain that some forms of induration, not answering to the Hunterian definition of a circumscribed, defined hardening, might be treated without a particle of mercury, by means of iodide of potash. The defined, circumscribed induration required, and would be best treated with, the mineral. Without pretending to say that secondary symptoms would always be obviated, mercury was the best antidote. Much as he might object to the remedy in other cases, no doubt could exist on its advantage here; and in such a case a four-week course was insufficient — it often required a longer time than this before even the induration would disappear. But on the time necessary for mercury to be given, he should like to hear the opinion of the senior members of the Society. The result of his own experience went to prove, that in the present day mercury was often resorted to unnecessarily; and that when given in proper cases the remedy was left off too quickly. Hence the cause of the odium thrown upon it, and the number of relapses. With respect to the forms of secondary symptoms, Mr. Lee attributed much importance to the treatment of the primary sore. This no doubt had its effect; out we must take into consideration the constitution of the patient, and more especially climate. This last cause had been more especially impressed on his mind by reading some excellent observations by Mr. Saunders, Surgeon to the 47th Regiment, as reported in the journals. The same men, under the same treatment, were found far less susceptible to secondary symptoms in the Mediterranean and West Indies than in England. In drawing deductions on syphilis, our observations must not be confined to this or that locality, or this or that year; and what might have applied to the year '39 need not be true in '49; for syphilis, as history proves, has various phases, and, like other diseases, must be treated according to circumstances.

Mr. **LEE** meant by a bubo a sufficiently troublesome enlarged gland to attract the attention of the patient, and to be remembered by him in giving a previous account of his malady. The surgeon might find more of these tumors than the patient, but still the number stated in the paper of those who had suffered from this cause was not small. With respect to the treatment of venereal sores, he did not say that they could not be cured without mercury, but that was the only remedy that could be relied on for the prevention of secondary symptoms.

Mr. **B. COOPER** said that no rule could be prescribed as to the time mercury was necessary to be given. He made it a rule, when giving mercury, never to make any local application to the sore. Mercury, when given with effect, showed its influence on the sore, and this was the best criterion possible to determine when to leave off that remedy. Mercury converted the specific into the common sore, and when this was effected, the medicine might be discontinued. We could not determine the action of this remedy when a variety of applications, as caustic, &c. had been applied to the part.

Mr. **MACILWAIN** said that the paper presented a number of points for discussion. He would direct his observations to one or two facts that his experience had determined. He was sure that it was impossible, by any physical condition that a sore presented, to determine whether or not it was a syphilitic sore. He had seen cases of indurated chancre cured without mercury, and had seen them, also, in connection with an indurated urethra, and get well when that condition gave way. Cases occurred in which the effects of mercury were not to be distinguished from secondary symptoms. He had seen similar effects to those of syphilis in persons who had taken mercury for inflammatory diseases. It had appeared to him, long ago, that mercury, syphilis, and other poisons, might produce a similar train of effects on the constitution, and that the symptoms on the surface could not be distinguished when produced by one cause from those produced by another. He mentioned a case in which a gentleman came to him with a sore throat, which he pronounced to be syphilitic; but the gentleman declared he had never had syphilis, and had never taken mercury, but had had a slight gonorrhœa some years before. Eventually, however, on inquiry, it was found that he had been taking a large quantity of a quack medicine, which was known to contain bichloride of mercury.

Mr. **GAY** did not agree that enlarged glands always accompanied the indurated chancre, nor was it necessary that a sore should be indurated, to produce secondary symptoms. Bubo was a term which had been applied to different states. For instance, the indurated gland, which existed in connexion with gonorrhœa, as a mere result of sympathy, was free from contamination, and was not strictly a bubo. Another form of glandular swelling went on to the formation of matter, and when this was evacuated it was found to be healthy pus, and the opening healed kindly. In these cases the system was not affected by the original sore. He considered that to be a bubo in which an abscess succeeded to induration, the skin becoming thin and discoloured, and a sanious discharge taking place from it. The opening in the bubo often formed a hardened base and edges. The system was then contaminated from syphilis. This was the true bubo. With respect to mercury, when the chancre was indurated—the Hunterian chancre—mercury was useful and necessary, and the only remedy to effect a satisfactory cure. He did not believe, however, that mercury prevented the occurrence of secondary symptoms; and he believed that, when given to a great extent, it favoured their development, and did harm but when given discreetly, and with great care, it was the best remedy we had.

Mr. **LEE** said that the paper had treated of a subject different from that which had been discussed. It had, in fact, treated chiefly of secondary syphilis, and not on the mode of curing the primary sore. With respect to the facts commented upon, he could only say he had observed Nature. With respect to the observation of Mr. Cooper, that when the induration of a chancre disappeared the syphilitic sore was cured, he could only say that nothing was more uncertain than the duration of this induration. Sometimes, indeed, in syphilitic sores requiring mercury, no induration existed. With respect to those cases referred to, in which, from constitutional weakness, mercury acted as a poison, he had seen these cases daily, but he believed the ill effects were due to the mode in which the medicine was given, rather than to the medicine itself. Mercury in modified doses was a proper treatment, for iodide of potassium might relieve, but would not cure. He related a case which occurred at St. George's:—A patient was admitted for syphilis: mercury could not be borne; sarsaparilla was administered, and the patient went out well. He returned, however, a short time after, with a similar eruption; the sarsaparilla was again used, but for a longer period, and he again left the hospital well. The third time he returned mercury was given him, with the effect of curing. The sarsaparilla had merely acted by supporting the constitution until it was able to receive the mercury. So it was with iodide of potassium. He would repeat the fact he had enunciated in the paper, that if mild mercurial action were kept up for four or five weeks, secondary symptoms would rarely occur.

Mr. **COOPER** explained that he had said, that if mercury were given from the first, without local applications being made, you would observe the sore go into a healthy condition, and this would indicate that the mercury had taken a constitutional effect. When, then, should we leave it off? He should give it while induration existed, but with all the cautions necessary to be observed. He made an attack on the old mode of salivating patients. He agreed that sarsaparilla and potash only relieved, and that mercury was the only certain cure in secondary syphilis. He had been taught this thirty-three years ago by Sir A. Cooper. Small doses of mercury, with careful diet, and care in every way, was the best treatment of syphilis.

After a few words from Mr. Lee, the Society adjourned until Tuesday, the 12th of June.

SOUTH LONDON MEDICAL SOCIETY.

May 10th, 1849.

JOHN HILTON, ESQ., F.R.S. PRESIDENT, in the Chair.

DR. GULL read a paper on the

Alliances of Erysipelas.

In the year 1847, during the winter, my attention was first drawn to the complication of erysipelas with inflammation of the fauces. The disorder then prevailed to a great extent, and was very fatal; the same has shown itself during the present spring on two occasions, and particularly during the prevalence of easterly and north-easterly winds. The object of this communication is to point out the relation of several apparently different affections to erysipelas, and to discuss the general plan of treatment to be pursued.

To rest satisfied with the definition that erysipelas is an inflammatory affection of the skin, would be to remain in ignorance of its practical nature, for such has been the advance in our method of looking on things, that we have learned to regard the word inflammation as expressing a very variable state, oftentimes such as by no means warrants depletion nor so-called antiphlogistics. That erysipelas is of the nature of inflammation we cannot doubt: we can imitate its results by applying a blister to the skin; and when the integument is loose we get, during erysipelas, a large amount of œdematous effusion, and often the production of pus in the parts beneath, as in the eyelids. But erysipelas is a peculiar inflammation, and is not, I think, necessarily limited to the skin.

In Nov. 1847, Mr. Fisher, a dresser in the hospital, sent for me to his lodgings: I found him scarcely able to speak, and sitting up in bed, complaining of much difficulty of breathing and a sense of suffocation, especially on attempting to lie down in bed. On examining the fauces, I found the soft palate red and greatly œdematous, and so elongated as to hang down upon the posterior part of the tongue like a fleshy translucent flap, and necessitating a prone position of the head to prevent its obstructing the larynx. The tongue was covered with a white creamy fur; it was indented at the edges. The pulse was frequent, and the skin hot. The whole indisposition had been preceded by shivering and uneasiness: I ordered him a brisk purgative, and afterwards the Roses and Quinine. The œdema of the fauces soon subsided, but on the third day the *mucous membrane of the nose became painful and swollen, particularly about the septum:* there was a great sense of stuffing; and on the fourth day the erysipelatous inflammation had passed over the exterior of the nose, and subsequently the whole head and face were involved. The case terminated well under the usual treatment of Infusion of Serpentary and Ammonia, with wine. On inquiry, I found that he had been dressing a case of Mr. Cooper's in Martha ward, in which there had been precisely the same order of symptoms. There occurred in that ward, and in the hospital generally, about this time many such cases.

Eliza Phipps, æt. 28, was admitted under Dr. Hughes, Jan. 13, 1848. A single woman, employed as a servant. A week before admission, after exposure to wet and cold, she was taken with shivering, sickness, and pain in the head and limbs. Two days afterwards her throat became sore, her feverishness continued, and an herpetic eruption broke out round the left angle of the mouth. On admission, her skin was hot and dry; the face flushed; the *mouth* and *tonsils* much tumefied and injected. Tenderness below the angle of the jaw; great difficulty of deglutition; pulse 90; tongue furred; bowels open: four leeches were applied to the throat, followed by a warm poultice, and the Julepum Acidi Hydrochlorici administered.

Two days after admission, an abscess, which had formed about the tonsil, burst, and she seemed greatly relieved; but two days subsequently the throat became again more painful; the fauces were injected and covered in part by dirty secretion. *A small red spot formed at the inner canthus of the left upper eye.* (Ung. Nit. faucib.; Garg. Acidi Nitr.; Quin. Disulph. gr. iij. t. d.; Pulv. Opii, gr. ss. vesp.; Empl. Lytt.; Vin. Rub. ℥iij.) In the evening I saw her, and found that the redness and tumefaction of the inner canthus and lachrymal ducts of the morning had now extended over the eyelids, and were distinctly erysipelatous.

The following morning the report is that she passed a restless night, was very delirious. Pulse 160; throat less swollen and painful. *Erysipelatous inflammation* has extended an inch around the left eye; the colour is bright, and the edge well defined. The right eye is beginning to be similarly affected, the disease beginning in the same manner, from the inner canthus. (Rep. Med. Am. Vin. ad ℥x.; warm water dressing to eyes.) Subsequently the erysipelas extended down the left cheek. The right ear and meatus became involved, and from this a purulent discharge came. Typhoid symptoms increased; the pulse was rapid, and she died nine days from admission, about the sixteenth of her attack.

A young man was admitted under Dr. Addison for dysentery and abscess of the liver: he was suddenly attacked with difficulty of swallowing and soreness of the throat; on the third day the eyes became closed from inflammatory œdema of an erysipelatous character: the right eye was first affected, and from the point at which the disease began being at the inner canthus, about the lachrymal ducts, *it seemed to be continued from the fauces*. In a short time the forehead and nose became involved, but before the cheek was implicated the right meatus auditorius was found inflamed, and the integuments of the ears erysipelatous; whilst a distinct layer of healthy skin, an inch in breadth, intervened between the erysipelas of the ear and that of the forehead and nose, showing two distinct extensions of the disease to the external integuments. Laryngitis supervened, and soon cut off the patient.

This case presented us with the disease beginning in the fauces and extending to the face, through the lachrymal canal and the meatus auditorius; also downwards to the vocal cords and upper part of larynx, which, on a post-mortem examination, was found œdematous.

Three other cases of cynanche occurred in this ward within a few days subsequent to this, but none of them passed into erysipelas.

About the time of the occurrence of the first case here recorded, there happened in Stephen's Ward, which is for surgical cases exclusively, several cases which seemed to point out clearly the alliances of erysipelas: first, the ordinary erysipelas of head and face occurred in several cases; and lying in adjacent beds in the same division of the ward in which the erysipelas had occurred, were two men, neither of whom had taken any mercury or iodine: one of these became the subject of acute stomatitis, which was accompanied by red, spongy, and swollen gums, fulness and tenderness of the salivary glands, and a large secretion of saliva; presenting thus many of the appearances of severe salivation. The other had great swelling and fulness, with tenderness of the tongue. This form of glossitis I have seen on several occasions: it is sometimes so painful and distressing as to require scarification to reduce it; at least I have seen this practised, although the great vascularity of the organ, and the difficulty of stopping the hæmorrhage, render the operation dangerous.

In one instance I saw glossitis limited to the right side of the tongue; the fauces were inflamed, and there was considerable constitutional excitement.

From the occurrence of these cases of cynanche with common erysipelas,—from the fact that we can often trace the continuity of inflammation from the fauces to the face, through one or several of the passages by which the mucous membrane is continuous with the skin,—from the connection of these with occasional glossitis and stomatitis, and from the œdematous condition of the mucous membrane accompanying these affections,—I cannot but think they are natural alliances to one common condition; and if erysipelas is used substantively to express the peculiar disease of the skin, these other affections of cynanche, stomatitis, and glossitis, and laryngitis, may fairly have the word employed adjectively, and be termed "*erysipelatous*."

Amongst the complications of erysipelas—or rather the extension of erysipelas itself—none are more formidable than such as implicate the larynx,—no diseases are more insidious, and none more certainly fatal. It is by no means infrequent to meet with these cases during the prevalence of erysipelas, and their alliance to this disease is often clearly demonstrated. In the winter of 1847, and during the early part of this spring, I saw several. Amongst the cases of glossitis, stomatitis, and erysipelas, we had others in which the fatal termination was due to an extension of the disease to the larynx, often so insidious as to escape direct observation, until serious symptoms of dyspnœa came on. Nor can we wonder at the inexperienced being deceived in these cases, because, beginning as they do with cynanche, and this being so often a very simple affection, the irritation of the larynx is referred to the fauces only, and no serious apprehension is excited until the dyspnœa rapidly increasing, calls for immediate aid.

A case illustrative of the truth of these remarks, occurred in one of the surgical wards of the hospital, in a man under the care of the late Mr. Morgan. Erysipelas and the like disorders were then prevailing, and this man complained of soreness of the throat; but his case elicited no particular observation, until early on the morning of the third day, the dresser for the week, Mr. Richardson, was called to him about half-past seven o'clock, and found him labouring for breath. He immediately sent for assistance, and procured the instruments for tracheotomy; and, although but a short time intervened, and the operation was performed, the patient survived but a few minutes.

On examining the parts after death, the mucous membrane about the arytenoid cartilages and vocal cords, was œdematous; here and there one of the large follicles about the fauces had suppurated; on the right side the mucous membrane was greatly injected, and when cut into, the submucous tissue was found to be infiltrated with yellow sero-purulent fluid. A regular gradation of changes could be traced around, until quite at the most distant parts: the sub-mucous tissue was merely œdematous. The right inferior vocal chord was greatly œdematous, but translucent; the left was not perceptibly affected. The epiglottis was red and swollen.

The viscera of the abdomen were in good condition as far as the structure could be observed.

Mr. Travers, in his work on Constitutional Irritation, gives examples of affections of the throat during erysipelas. A woman had compound fracture of the patella. Suppuration in the knee-joint followed. Soon after this an erysipelatous blush appeared near one elbow, and pus was distinguished in the subcutaneous cellular tissue. She went on thus for a few days, when she complained of soreness of the throat. A general redness was observed on the soft palate, from which it extended to the pharynx. The difficulty of swallowing augmented to a great degree, and difficulty of breathing followed. In this state the poor woman died rather suddenly. The throat was not examined after death.

A gentleman whilst intoxicated was thrown from his horse, and received a lacerated wound of both legs, and a simple but severe fracture of one tibia into the knee-joint. Erysipelas of both legs followed, and incisions were required to evacuate the matter from the subcutaneous tissue. The patient was very low and exhausted, and erysipelas was still spreading up the thigh, when he suddenly complained of extreme sore-throat. Only a general redness could be seen. In twenty-four hours after this he died, the dysphagia being complete. On examination of the throat, a diffused redness was found to be spread over the pharynx and palate, and to enter into the laryngeal cavity; there was some, but not much œdematous effusion into submucous tissue of pharynx and larynx.

Dr. Stevenson, of Arbroath, in the year 1826, published cases illustrating the contagious nature of erysipelas, and its connection with severe sore throat.

"The disease," he says, "commonly began with a red or purplish blush, more or less extensive, over the uvula and velum, accompanied with very little tumefaction, but with considerable pain in swallowing. In many cases the disease ended here, but in a few cases it extended to the larynx, producing a state of respiration like idiopathic croup; in others it extended to the pharynx and œsophagus."

Diffused suppuration through the cellular tissue of the throat is another dangerous and fatal ally of erysipelas; and I have seen it appear under two forms. It cut off two of the inmates of the lunatic house at Guy's in one day in the winter of 1847, and the day previously one died of common erysipelas. The cellular tissue may be affected from the cynanche by direct extension, or from erysipelas of the head and face extending down the neck, and implicating the parts beneath. So far as I have seen, erysipelas is often fatal in this way. This affection of the throat is to be distinguished from the so-called malignant sore-throat which occurs in scarlatina; they agree only in the seat of the disease, and their fatal tendency. There is yet another close alliance between erysipelas and puerperal peritonitis: this is in general admitted, and during the prevalence of this fatal disease in our lying-in charity last year, I obtained and examined the uteri of three women who had died of peritonitis. In all, pus was detected in the veins of the uterus, but the part of the uterus at which it was found seemed to me a fact worthy of recording. In all three every part of the uterus was examined. First of all, particularly at the part to which the placenta had been attached, but in none did the veins corresponding to this part contain any pus, and the structure seemed entirely healthy, the openings in the sinuses being filled with healthy firm coagula; but in all three the *veins about the neck* had suppurated, and all the usual marks of inflammation, viz. redness, tumefaction, &c., existed at this part. Although these three cases may have been but so many coincidences, yet it certainly is worthy of remark that in all three the inflammation had its chief seat in the part *most liable to injury*; and in neither could it have had anything to do with the attachment or separation of the placenta.

The well-known tendency of puerperal peritonitis to spread from patient to patient, its prevalence during epidemics of erysipelas, and the frequent alternations of the two diseases where many persons are brought together, and I might also add, the tendency of both to attack persons similarly situated—thus, any injury to the surface, as in surgical operations during the prevalence of erysipelas, is most apt to form a locality for it; so, after labour, when the neck of the uterus has been stretched or bruised, as indeed it must always be during labour, an inflammation of its tissue may occur, which, like that I have described in the throat, may pass to deeper tissues, spread to the veins, and fatal complication is the result; or if not fatal, local œdema, from coagulation of blood in the veins, and all the miseries of phlegmasia dolens.

It would be perhaps without practical value to discuss minutely the exact local pathology of erysipelas. That it generally terminates in vesication rather than in suppuration is due, I think, to the rapidity of the vascular changes, and the transitory nature of the disease. In many instances it does pass into the suppurative condition, as when there is much loose cellular tissue under the skin, as about the eye-lids, or as we have seen about the lax tissue, at the upper part of the larynx.

That it is an inflammatory disorder few will be disposed to deny; but I think as few will hence infer that we must treat it by depletion, antimony, &c. Inflammation is a condition which occurs in states of the system most widely different—as between simple pustular acne and violent typhoid small-pox: pustules result in both, and both are inflammations of the skin; but to say no more than this would leave us far off from anything like appropriate treatment, which, indeed, can never be determined by classifying a disease, but by studying the state of the system in which it occurs.

I take it for proved that erysipelas may be the result of contagion, as well as arise spontaneously from external and internal causes. It may occur in states of the body most dissimilar as regards vascular plethora; but so far as I have seen, however various the general aspect, there is a want of tone in the nutrient system, and disorder of the secretive organs.

In a society constituted as this is, the question of treatment must be one of paramount interest. Men of great experience have maintained opposite plans of treatment in this disease; the depleting and antiphlogistic means being recommended by one side, tonics and support by the other. Whilst I leave this discussion to the individual experience of the members, I may set down what is the plan of treatment pursued for the most part at Guy's. The contagious nature is admitted, and so soon, therefore, as a patient shows signs of erysipelas, he or she is removed from the general wards. A mild purgative is ordered, and if the patient be moderately young, and of fair powers, a neutral saline, and gentle nourishment; the local treatment being various, or none. The part is punctured, or flour or tepid gruel is applied.

Sometimes Argent. Nitr. or a solution of Arg. Nitr., in moderately strong nitric acid, is applied, and with variable benefit, sometimes so successfully as to limit the disease—oftener not. On one or two occasions I have seen the parts painted with Tinct. of Iodine, but I do not think I have seen any good from its application. Nitrate of silver, or its solution in nitric acid, have seemed to me to act best when the erysipelas is about the trunk or the extremities.

In most cases warm fomentations are not used. I think I have seen them do great harm when very warm, and very assiduously applied, especially in favouring the extension of the disease to surrounding parts, and to the skin beneath. It is many years since I saw a man bled, as part of the treatment of erysipelas. Very early in the disease, tonics, with ammonia, are administered, and in cases where there is doubt as to the degree to which these may be carried, we take an intermediate course, giving an effervescing mixture, composed of carbonate of ammonia and lemon-juice, the ammonia being slightly in excess.

Wine in the middle and latter stages is freely administered, and sometimes from the beginning. The success of this plan is very great, even in the worst cases.

Whilst erysipelas is confined to the skin, all is easy; but when it implicates the throat, how are we to act? May we attempt to lessen the local action by leeches and poultices, whilst we at the same time give tonics and stimulants? Or are we to change our plan entirely when these parts are implicated, and employ antimony and the like?

This is a question of immense importance, especially when we remember that the implication of these parts is the most frequent cause of death in this disease, although I believe it is often overlooked from its insidious approaches: the patient becoming dull and semi-comatose from pressure on the vessels of the neck, makes no complaint, and the cause of death is referred to the head, until the first incision through the integuments of the throat at the post-mortem elicits the exclamation—"What's all this?"

Hopeless as these cases too often are, I yet think it might be admissible to attempt to lessen the local action by the smallest amount of local depletion, employing at the same time the same remedies as from the nature of the case we should employ if the erysipelas were on the surface. I have, however, already extended this paper too far, and the subject of treatment will advantageously admit of discussion; so that, thanking you for your patience, I may await your opinions on this important subject.

Mr. Hicks considered the paper of the greatest use to the profession at large, especially in defining the treatment hitherto so vague. From his own limited experience, he could confirm the accuracy of the author's views, and related two cases in illustration. One case was where the wife died in about forty-eight hours from puerperal fever, the husband being simultaneously attacked with sore-throat, attended with typhoid fever, from which he was rescued with difficulty by full doses of quinine and stimulants. In another case the fever was also typhoid; there was profuse diarrhœa. He was saved by a gargle of nitrate of silver, ʒj. to ℥viij., and full quantities of gin punch, in which he was in the habit of indulging.

Dr. Lever perfectly coincided with the remarks of the previous speaker respecting the importance and value of the paper submitted to the Society by Dr. Gull: important and valuable it was, not merely to the physician and surgeon, but especially to those who practised that branch of the profession to which he was more particularly connected. He believed, in the surgical wards of an hospital, erysipelas was oftentimes conveyed to a patient, with a previously healthy wound, by means of sponges which had been employed by the nurses in cleaning the sores of an erysipelatous patient. Indeed, he had too often witnessed this, and he could not but think that surgeons themselves in some instances are the vehicles of contagion. If, however, there was one fact which was strongly and decidedly established in his mind, it was the affinity, consanguinity, or, to use Dr. Gull's words, the alliance between puerperal fever and erysipelas. He would place a few facts before the Society, and permit the members to judge for themselves.

A medical friend, now deceased, was engaged in the examination of the body of a woman who had died from puerperal fever, when he was called away to a case of labour. Before this was completed, his services were required at another: both mothers died of puerperal fever; one child died of erysipelas commencing at the navel. Both nurses died of erysipelas, as well as other members of their families; so that altogether eleven or twelve deaths occurred from his friend's unfortunate attendance. Two pupils, who usually studied together, were sitting one on either side of the bed of a patient suffering from a very severe attack of erysipelas, taking notes. Both were summoned within a quarter of an hour, each to a case of labour. On the afternoon of the same day each attended a second case: all four women died of puerperal fever; all the children of erysipelas: still, on strict inquiry, neither disease was found to prevail in the districts where these patients resided, nor was it raging among other patients of the charity. A third instance was this:—A nurse who had been in attendance on a man who had died from erysipelatous sore-throat, called in the afternoon one day to tell a lady whom she was engaged to attend in her approaching confinement, that she must decline such attendance, by the advice of her medical man. She sat in the house an hour or two, and partook of some tea. The lady was confined in the night, and died of puerperal fever. The nurse was attacked with erysipelas, and also died; and yet, with such numerous and accumulated facts, he was surprised to find many practitioners maintaining opinions quite opposite to these.

Dr. Lever would further remark, that in his opinion a disease which he could not distinguish from puerperal fever might be produced by the medical attendant going in the same clothes from the dissecting-room, or a post-mortem, whatever might have been the fatal disease of the subject. He gave a remarkable case of the former—a case of sporadic puerperal fever, where the surgeon who had been at a post-mortem examination attended a lady in her confinement, and saw her no more: this case also terminated fatally. In conclusion, he would state that, in addition to topical measures, he thought he had seen advantage from the exhibition of opium and quinine from the commencement of the attack—one grain of the former and two of the latter every three or four hours. He approved of the tonic plan of treatment. He mentioned another instance of a medical man who had persevered in his attendance on midwifery cases until he lost twelve women.

Holding the strong opinions on the subject as he did, he could not regard such persons as *unfortunate, but highly criminal; for, instead of being messengers of mercy, and assuagers of anguish, they resembled the destroying angel;* for in every house they entered they were marked by death and desolation. In conclusion, he would ask Dr. Gull whether he was in attendance upon cases of erysipelas when the disease showed itself in the Lunatic House?

Dr. Gull said he was not in town at the time.

Mr. W. H. Rogers (Police-surgeon in the Mauritius) said that he had seen but little of erysipelas, except as the forerunner of elephantiasis; and, in answer to the President, he said that the mode of attack was stiffness and coldness of the limb for some time preceding, soon after followed by large patches of inflammation. This disease sometimes attacks the scrotum; and he related a case where he had removed the enlargement, weighing sixteen pounds. With respect to puerperal fever, he fully agreed with Dr. Lever, as he invariably trusted to opium in its treatment; but he had often seen leeches applied to the groin of service.

Dr. Hughes was glad to hear the remarks made by Dr. Lever, and thought they should be made widely known; for, notwithstanding all that had been stated, he had heard in another society like the present that the disease was not infectious. He reiterated his conviction that diffuse inflammation of the cellular tissue in the neck was almost invariably fatal, and he now saw no hopes of relief unless by cutting boldly down to the seat of the disease. In cases of erysipelas of the legs, he always looked upon vesication as a favourable indication, and in most of the fatal cases this symptom did not appear.

Dr. P. Murphy had not the slightest doubt that erysipelas and puerperal fever were convertible diseases: he thought the medical man highly culpable who did not give up practice for some time when he had the misfortune to have a case of puerperal fever.

Mr. **Ray** said he had seen many cases of puerperal fever, and believed it was invariably conveyed by the nurse or medical attendant: he mentioned several cases in proof, and fully believed that it could be produced by other causes than that termed puerperal, as he himself thinks that in one case his patient suffered merely from his going direct to her from a post-mortem inspection.

Thanks were unanimously voted to the author of the paper, and the Society adjourned.

Correspondence.

THE BOARD OF HEALTH ON CONTAGION AND QUARANTINE.

Sir,—After the peculiarly oblique mode in which Mr. Grainger recently made the demonstration that the cholera was not contagious, because (for so his argument seemed to run) it affected the very same localities as the typhus fever, or the common continued fever of the country, it was not to be supposed that the Board of Health did not sanction that view of the subject; and it was reasonably enough conjectured that the Board ere long was destined to throw additional light on the obscure and complicated question of the so-called (vulgarly) contagious diseases, typhus, scarlet fever, plague, &c. It would appear, then, from the recent declaration published the other day (vide Times, 28th May, 1849), that the notion of contagion is altogether a complete delusion and positive fallacy, and as little deserving credit as the dreams of our forefathers about witchcraft, or the popular hallucinations on ghosts. This, however, it must be carefully noted, is not a new idea, for which the public, especially that portion of it interested in the question of the abolition of the quarantine laws, might be disposed to give that board the credit; for, independent of the various medical authorities, as well as other individuals, at different intervals in the records of the healing art, who have questioned the doctrine of contagion, there would, from the history of opinion on that question, appear to have been epochs at which the positive or affirmative of the question was the prevalent belief, and all but universally admitted; and others in which the opinion followed by the Board was the adopted theory of the day. For example, Dr. Parr, the eminent author of the Dictionary of Medicine, treating this question in the year 1808, observes—"And, though it has been lately the fashion to deny contagion or infection, yet numerous are the victims that have been sacrificed to this pernicious system." The statement now quoted is from a sound and practical observer, and will suffice to indicate the position in which the question of contagion or non-contagion has been viewed by the medical public. We shall be excused for appealing further to the same authority, as the remarks are quite pertinent. "The last plague which infected the town in which we now write (1808, Exeter), arose from a traveller remarking to his companion, that in a former journey he had the plague in the room where they sat. 'In that corner,' said he, 'was a cupboard, where the bandages were kept: it is now plastered, but they are probably there still.' He took the poker, broke down the plastering, and found them. The disease was soon disseminated, and extremely fatal."

We do not object to see an alteration made in the quarantine laws (provided it be such as the accumulated evidence of the mature judgment of *medical* authorities countenances), indeed these laws call loudly for amendment; but that amendment requires to be disposed of in a manner becoming the difficulty, and the importance of the subject. In effecting this object, we do not conceive what purpose is to be gained by mis-statements,—by slurring over irrefragable facts, and omitting the detail of unquestioned histories of visitations of epidemic or the so-called contagious disorders. If there are virtually obstacles to the establishment of a supposed great principle, let the public be in full possession of them, and not be led, hoodwinked, to the adoption of the *authorised* (?) creed on the subject. Some happier occasion may at a future period reconcile the contending differences; but in our zeal for the determination of the truth, let us warily be on our guard, lest we fall into the common error of acting on a one-sided view of the subject under consideration. The old Romans have it "humanum est errare;" and we do not conceive the constitution of a certain number of men into a Board secures them collectively against a contingency to which they are all exposed as individuals. If, then, the fact extracted above from Dr. Parr be true—nor do we see the slightest grounds on which to question his authority on the subject—and if the inferences drawn by the Board of Health be equally true (we would beg to draw a sharply marked line of distinction between facts and inferences for obvious reasons), as we are bound to give all parties the credit of honestly stating their avowed belief, we can scarcely avoid coming to the inference, that contagion is a most varying quality indeed, and only to be tested by the experience of the day. *Sed hatenùs hæc.*

Adhering to the strict meaning of the term contagion, *i. e.*, actual contact, the Board of Health observes—"according to the hypothesis of contagion, no matter how pure the air, no matter what the condition of the fever ward, if the physician only feels the pulse of the patient, or touches him with the sleeve of his coat, though he may not catch the disease himself, he may communicate it by a shake of the hand to the next friend he meets, or that friend, without catching it himself, may give it to another; or if the physician wash and fumigate his hand, but neglect the cuff of his coat, he may still convey the deadly poison to every patient whose pulse he feels during the day. If this were so, the track of a general practitioner who attends one patient labouring under a specific epidemic disease, would be marked by the seizure of the rest of his patients: if it were true of cholera and typhus, some members of this board must have fallen by these diseases, who from morning until night received inspectors that came from places where these epidemics were rife; and if any disease of common occurrence really possessed such powers of communication and diffusion, it is difficult to conceive how it is that the human race has not been long since extinguished." Softly, now, most gentle Board! this may be *your* definition of the word contagion, but what medical man will adopt it? And who, adopting it, and admitting it in the fullest acceptation of the meaning of the words (we omit the detail of our lexicographical knowledge on this matter), does not further do so with the understood knowledge that there must be a predisposition,—a likelihood (to be familiarly colloquial in our language) in the body, from the particular habits of the individual,—the accidental derangement of the harmony of his functions, or other analogous coincident states, without which he would not be affected with the contagion.

Let us take an illustration: scarlet fever is pretty well known as a disease. It is a specific epidemic disease,—of course we adhere to the old language and interpretation of these and other analogous diseases, notwithstanding the mumble-jumble hypothesis of the Board, that as they are characterised as a class by certain important conditions, they ought to be held as one disease, or, as the commentator says, "conditions which generate yellow fever in Barbadoes, generate typhus or scarlatina in England" (Times, 28th May, 1849). Now, our general practitioner attends such a case, and all the patients he afterwards visits have had the disease already: no one falls ill therefrom; but according to the Board's hypothesis, all should, *i. e.*, according to the mode the phenomena of disease are interpreted by the aforesaid Board. This instance, we judge, is sufficiently explicit as to the faulty interpretation of the word contagion.

But let us look a little more closely into the subject; we are aware of its importance, and therefore of its wide range, and only fear we do it anything but justice in these brief commentaries. Is it not notorious that several boldly venturous medical men have perished by inoculating themselves with the matter of the plague? That is a fact, certainly. It cannot, then, be denied that *something* from the diseased body will produce a like disease in the sound healthy subject. But then it might, captiously enough, no doubt, be objected, that the infection was in the air notwithstanding. We shall not trifle with ink or time in replying to that objection. How did the fever, after the retreat of Corunna, spread in the sea-ports where the unfortunate soldiers landed? Were there ship loads of the infectious air brought to these places? Was it not more probable that the bodies (as is popularly received) of the sick produced an increased supply of the poisonous materials, and hence the diffusion of the fever took place? If the air be a contaminating source of disease, what conditions render the air so deleterious? If the body become diseased thereby, does it not in a corresponding ratio vitiate further the atmosphere? And if we admit that it does (as in the case of small-pox and scarlatina, of which there are still some believers), how does it contaminate the atmosphere? Not assuredly by generating a poison unlike itself, for that would be contrary to the whole acknowledged laws of animal organization! And then we are led to the inference of the production of a poison, which, like everything else which can affect or act on organized matter, requires a predisposition in that particular animal before its action can take place.

The range of this subject is too extended to permit us to say more at present. We could only beg leave to remark, that if the public are left distracted in the ideas by which they should be guided in reducing these theorems of the Board to practice, they may console themselves with the speculation of a celebrated philosopher, who denied the existence of matter, mainly, we conceive, with the purport of rearing a more unconditional credence to the theory of mind; and eventually exclaim with Bacon, "'What is truth?' said jesting Pilate, and would not wait for an answer."—I am, sir,

Your obedient servant,

WILLIAM REID, M.D.
Lecturer on the Practice of Physic,
and Fellow of the Royal College
of Physicians.

PROFESSOR LIZARS ON THE USE OF CHLOROFORM IN SURGERY.

Sir,—Under your favourable review of my Practical Surgery, for 25th May last, you mention that I have forgotten to take notice of the effects produced by air entering into the veins, "although it is obvious," you say, "that from this cause slight operations in the neck may be easily rendered fatal." Permit me to direct your attention again to my work, in which you will find, at page 34, under phlebotomy, that I caution the surgeon, when opening the external jugular vein, to take care that air does not enter that vessel, and prove fatal. Again, at page 322, in describing the extirpation of tumors in the neck, I state, "when the external jugular vein is divided, that it must be secured at both ends, as also must any other ordinarily sized veins, lest the suction power of the auricles of the heart should inhale the air, and extinguish life,—an event which has followed operations as high up as the face."

You express a regret that my work was published before chloroform was used, as you would then have had my analysis of its uses in operative surgery. Ether had just been introduced, as mentioned, under amputation. Since the employment of chloroform, I have used it in lithotomy, amputation of the extremities, excision of the mamma, and in strictures of the urethra; and although I commenced its use with prejudice, I have now become a thorough convert to its utility in almost every operation in surgery. Under its influence the patient is rendered *pro tempore a cadaver*, and if the surgeon be perfectly master of the anatomy of the parts, he is, as it were, performing a dissection in the anatomical rooms, and is thus enabled to reduce to practice the observation of John Bell, that operating is nothing more than dissecting on the living body.

When using chloroform the patient should have an empty stomach, and for that reason operations should be performed before breakfast, as chloroform always produces vomiting when the stomach is full, and the rejected fluid is liable to enter the paralysed glottis, and produce suffocation. To this cause I apprehend the great proportion of those who have died under the use of chloroform may be ascribed. An experienced assistant is therefore required to administer the chloroform, and to do nothing else. He must watch its effects, allowing fresh atmospheric air to enter the nostrils and mouth occasionally, during its administration and influence, otherwise the blood may become too greatly carbonised, and death ensue. The patient is soon highly excited, and strikes out with his arms and legs, and then becomes perfectly powerless or motionless: then, should the operator commence, and if the patient indicates any restlessness, more chloroform must be administered. A silk pocket handkerchief, folded about eight inches square, and rendered hollow like a cup, with two drachms or so of chloroform poured into the centre, is to be applied to the nostrils and mouth, and in a few seconds a drachm or two more used in the same way, and in this manner continued until the patient is rendered insensible. Should vomiting take place in consequence of the patient having imprudently breakfasted, his head must be held over the edge of the operating table, and the operation suspended until this action ceases, otherwise he runs an imminent risk of being suffocated.

In stricture of the urethra, where the patient is of an irritable habit, by putting him under its influence, spasm is totally removed, and that acute sensibility, under which many so afflicted labour, is completely subdued, so that he who is acquainted with the anatomy of the parts cannot fail to carry a small catheter onwards to the urinary bladder in the worst cases of stricture. I have just succeeded in curing a gentleman, 35 years of age, who had laboured under stricture for many years, and in whom, four years ago, urinary infiltration took place, requiring free incisions to moderate the sloughing process. From that time he has been afflicted with a perineal urinary fistula. When I first inserted the smallest catheter, it appeared impossible to ascertain the continuity of the urethra, and from the extreme sensibility of the canal, and the irritability of his constitution, there seemed little or no chance of success without the use of chloroform.

I have not yet had recourse to subcutaneous incision—the *Edinburgh mode* (we will probably be told) *of treating stricture*—or the free incision of the Nottingham School, or the lancetted stilette of Stafford. Of two patients whom I have known treated with subcutaneous incision, the one is said to have died with hæmorrhage, and the other is afflicted with perineal urinary fistula, through which all the urine flows. As I have stated in my work on Practical Surgery, under *Catheterism*, "this operation is one of the most difficult in surgery; it has consigned more men to the grave than all the weapons wielded by the bands of Marius and Scylla." The late Mr. Liston used to boast that he had never yet failed in inserting a catheter in stricture—that he considered all other modes of treatment barbarous.

A point of considerable importance to the profession not yet decided, so far as I know, is, how early in life may chloroform be administered. I have given it to a boy three years of age, before cutting him for stone, with the greatest benefit.—I remain, sir,

Your very obedient servant,

JOHN LIZARS,
Late Professor of Surgery to the Royal College of Surgeons, and Senior Operating Surgeon to Royal Infirmary, Edinburgh.

Edinburgh, 38, Charlotte Square,
31st May, 1849.

*** We are glad to have the opportunity of inserting these remarks by Professor Lizars on the use of chloroform in surgery. With regard to the fatal effect of air in veins, we should like to have a good surgical analysis of the cases yet observed—the cause of death—post-mortem appearances, &c. A section on this subject would be a useful addition to the next edition of Professor Lizars' excellent work.—ED. GAZ.

Medical Intelligence.

THE CHOLERA IN PARIS.

THE belief that this disease was on the decrease in the city of Paris, has proved fallacious. The latest accounts, dated June 4, show that it is fatally extending itself through all quarters and among all classes. The admissions to the hospitals for the three days preceding were :—

	Cases.	Deaths.
June 1st	95	49
,, 2nd	134	54
,, 3rd	208	119

The total cases up to this date in the hospitals have been as follows :—

Cases.	Deaths.
7507	3848

The deaths in the city, exclusive of those in the hospitals, averaged for the last week in May about 60 daily. The deaths in the city, up to the 30th May, were 3160. It has been remarked that a large number of the cases have proved fatal in a very few hours, and have not been indicated by premonitory symptoms.

POISONING BY LOBELIA INFLATA.

THIS powerful medicine is still extensively employed by quacks, and we are informed that, from the injudicious use of it, a person who had placed himself under the hands of a herb doctor in the North of England has lately lost his life. At the inquest, it was proved by two medical witnesses that the deceased had died from the effects of the lobelia inflata. A verdict of manslaughter was returned against the quack.

CONVENTION OF POOR LAW MEDICAL OFFICERS.

A DEPUTATION from the Committee, consisting of Dr. Hodgkin, Chairman, Dr. Barnett, Mr. Vallance, of Stratford, Mr. Ebsworth, of Bulwell, Mr. Ross, Mr. Mitchell, Mr. Porter, Mr. Peter Martin, of Reigate, Mr. White, and Mr. Lord, the Hon. Secretary was received on Thursday the 24th instant, by the President of the Poor Law Board, at Somerset House. Dr. Hodgkin being absent on the entrance of the deputation, the business was entered upon by Mr. Vallance, who begged that the case might be judged of, not by his feeble advocacy, but by its inherent strength and justice, adding that although he had personally little or nothing to complain of, his own Board having acted with something like liberality and fairness, he was induced to join the deputation from a thorough conviction and a long knowledge of the just claims of the medical officers. After dwelling upon their very insufficient miscalled remuneration, which varied from 2½d. to 14s. 4d. per case; and showing that the cost of drugs alone, as stated by Dr. Rigsby and Mr. Farre, is 2s. 1½d. in dispensaries, and 3s. 7d. per case in hospitals, he said, could it ever be pretended that the medical man was paid by 2s. 6d., the country average for attendances and medicines? He would not insult the judgment of Mr. Baines by arguing the point It was conceded by the Resolution of the House of Commons in 1838, recommending a considerable increase ; also by the feeling of the House in 1844. Lord Ashley strongly and truly expressed the opinion that the medical officers could not properly perform their duties unless they received an income suitable to the magnitude of those duties ; that they ought to be enabled to occupy the position that belonged to them as educated men, entrusted with great, indeed fearful responsibilities.

Mr. VALLANCE next urged the importance of making the appointments permanent "quandiee se bene gesserit," and proved the fallacy and injustice of treating the Union Surgeon as the only officer subject to a precarious tenure of, or capricious dismissal from, office. He concluded a lucid statement by somewhat adroitly, though respectfully reminding the President, that in ancient times a potentate began his reign by an exertion of mercy or of justice ; that nothing would better become his high position or be more graceful than his yielding in mercy to the sick poor, fair and impartial justice to the claims of the medical officers ; all that the committee seek may be comprised in payment proportioned to duties, permanence of appointment during good conduct, and responsibility to professional authority.

The PRESIDENT replied, that nothing

could be better than the manner in which Mr. Vallance had stated the case, and that he was very much obliged for the information the deputation had placed before him. He was perfectly aware of the hardships under which the Union Surgeons laboured, and felt very desirous to have them removed: he was himself a professional man, and had much sympathy with gentlemen so situated, and wished to see them requited on a scale befitting their station. His power, however, had been much overrated: he was not absolute. He had been informed that Mr. Buller, in considering the question, found difficulties increased upon him as he progressed: an extension of the power of the commission, to enable it to carry out such measures as the deputation sought, could only come through Parliament. That in Parliament many of the members were ex-officio guardians, watching every proposed change with attention, while from local knowledge in their own districts they were able to speak to facts, and took an interest in the proceedings of the Boards of Guardians.

Mr. Vallance reminded the President, that in the Report of Lord Ashley's Committee, he would find it stated, he thought by Mr. Lewis, that the Poor Law Commissioners had now the power to declare all medical appointments permanent.

Mr. Lord said, that he knew the President dwelt very much upon a power for giving redress which was in the hands of the Guardians. A member of Parliament who had been imbued with these views, remarked to him, that it appeared to him that this power, unchecked by the Commissioners, ought in all cases to be an adequate remedy *if the Guardians act fairly and reasonably.* The deputation particularly desire to press upon the mind of Mr. Baines the fact that the Poor Law medical staff, from long and painful experience, had lost all reliance upon those bodies acting in that way. The ex-officio Guardians, the Clergy, and more intelligent members of local Boards, were equally, with the Poor Law Commissioner, disposed to act with considerate liberality toward the medical officers, but who were from time to time, in their endeavour to do so, out-voted by the farmers and tradesmen, who too often carry out their merely commercial views, and combine to keep down the salaries on the single broad though short-sighted principle of keeping down the rates: to so great an extent is this often carried, that the very orders of the Commissioners are frequently opposed or set at nought. In illustration of these points he read extracts from public documents, and letters which had been received by the Committee, from persons of the highest respectability.

The Committee, therefore, feeling strongly the importance of awakening attention in the House of Commons to the false system on which Poor Law Medical Relief is based, prepared forms of Petitions to be returned from numerous parts of the kingdom, many of which had already been presented, and more had been received for that purpose. The clergy and magistrates in many instances had taken part with them, as the following extract from a letter which he had received from Mr. Corsby, of Winslow, would testify: "I have (states Mr. Corsby) "drawn out a *general Petition*, and obtained the signatures of nearly all the magistrates and most of the clergy resident in the union, and have no doubt shall have the name of every one; they all express much sympathy with medical officers of unions, and surprise that similar petitions are not adopted in every union."

The President here observed that such efforts, carrying with them the manifest cooperation of other classes than the medical officers, would be likely to have considerable weight with the Legislature.

Mr. Lord rejoined that the Committee had done much, and would yet do more, to draw public attention to the subject, and to cause the public at large to know how utterly inadequate was the pay for the public advantage conferred through the services rendered by the 3000 gentlemen composing the Poor Law Medical Staff.

The powerful writer in "The Times," under the signature of S. G. O., had also given his aid in furtherance of the claims of the pauper sick and that of the Union Surgeons.

Through these various modes of exciting interest and diffusing information, the Committee hope to exert an influence in the House of Commons, which at least might strengthen the President, so as to enable him to carry into operation such measures of redress as he believes to be right.

Mr. Baines inquired if the Committee were unanimous in approving the proposed plan of medical relief appended to the memorial to Sir George Grey, observing that it was a matter of great pleasure to notice how well the medical men generally performed the arduous duties of their engagements, and how very few complaints against them reached that office. Respecting the salaries, a great additional difficulty arose from the readiness with which medical gentlemen accepted the appointments. Mr. Vallance having explained the vigilance of self-protection which induced men of character and capability to take office under the Poor Law, the President added, that he was quite aware of the motives, irrespective of the pay, which induced many gentlemen to fill these offices, and that though such were not fair arguments against their complaints, they did give a pretext to some for not interfering with the present system.

Mr. **Peter Martin** said, that unfortunately it was only a section of the entire body of the profession who were thus exposed to the hardships complained of; were the profession generally direct sufferers, there would be more chance of co-operation to resist or prevent an injurious competition.

Mr. **Ebsworth**, of Bulwell, reminded the President of the immense and wide inequality between the payments made to Union Medical Officers, the difference being observed even amongst the members of the deputation themselves. The Poor Law Commissioners sanction the salary of £100 for duties performed in one Union Workhouse of less size, with fever inmates, and attached to a far less number of parishes, whilst in his own case he received only £45. How did this inequality arise? on what principle of justice could it be upheld? Did medical officers know beforehand the duties they would have to perform for the salaries advertised, none would have the hardihood to accept office on the terms.

This deputation was of opinion, that Mr. Baines, as President, had the power at least to alter the anomaly of the present medical regulations. It was not equitable that the pauper of one district should be provided with a worse paid medical officer in their sickness; nor could it be supposed that the diseases of one county required a more expensive class of medicines than another.

If the President would look into the circumstances of each union, and learn the nature and extent of the duties of each individual medical officer, and found thereon a scale of remuneration somewhat approaching to the recommendations of the Poor Law Board itself, the hardships we complain of would soon cease.

We complain of inadequate salaries and burdensome duties; where other relief is refused, our assistance is granted. In case of a family being sick from destitution, the head of it having struck for wages, medical orders are granted *ad libitum*, although the law in such instances disqualifies them for receiving general relief. The difficulty in obtaining orders for extras is generally proportionate to the laxity with which sick ones are distributed. All and every complaint made by us might easily be done away with by the President saying—"By such and such standard shall the remuneration of the medical officer be gauged: I will tolerate no appointment in which an inadequate payment must fail to secure good attention to the poor, and good medicaments in their diseases."

The **President** remarked, that the question of finance was the grand difficulty; throughout the country the demands upon the poor rates had been lately increasing, and he feared that any fresh one made just now would be met from all quarters with opposition. He had no reason to think that any mode of administering medical relief, except as now, through the Boards of Guardians, would be acceptable to the country in general. The plan suggested of placing the entire cost of the medical relief on the consolidated fund, was one which Sir George Grey might deal with. In legislating on these matters, no minister or officer of the crown could begin to form "de novo," or write as it were on a "tableau raisé," but with such means and systems as were established and much entwined with the feelings and habits of the country.

Mr. **Vallance** informed the President that, at the interview at the Home Office last year, Sir George Grey admitted that the money question was secondary to that of procuring efficient medical aid for the sick poor; at the same time referred the Committee to the President of the Poor-Law Board, the late Mr. Charles Buller.

Mr. **Ross**, although holding no appointment under the Poor Law Commissioners, but acting as *amicus curiæ*, wished to interpose a few remarks. The deputation had believed that the Poor Law Board exercised a power almost autocratical in the administration of the laws for the relief of the poor, but it now appeared otherwise; and they were given to understand that it was the Boards of Guardians who exerted this arbitrary power, and who were best able to redress the grievances under which the union surgeons laboured. This was in fact the point of complaint, it was *because* the Boards of Guardians had the power that those evils under which the medical officers were smarting prevailed, and it was to alter this system that the Poor Law Medical Convention was established. The entire scope of the Resolutions agreed to by the Committee, and cited in their Memorial to Sir George Grey, went to this effect:—These resolutions sought for payment of salaries out of the consolidated fund in order to obviate the grinding parsimony of local boards, and they desire the establishment of a district medical staff, with the view of removing the medical officer from the jurisdiction of boards frequently composed of persons who were utterly incompetent, by habits of thought and feeling, education and pursuits, to form a correct judgment on the conduct of their medical officers. Many cases might be cited to prove the injustice of the Boards of Guardians towards their medical officers, and of the apparent powerlessness of the Poor Law Board to redress the wrongs the medical officers are thus obliged to suffer. They are, indeed, sacrificed between two rival jurisdictions. The

Huddersfield case is one evidence of this deplorable state of things. Among other subjects of complaint, Mr. Tatham, the medical officer, applied for remuneration for attendance on a fever hospital, established in Huddersfield during the prevalence of fever in that neighbourhood. He had been appointed to the medical duties by a portion of the Board of Guardians, who had acquainted the board at one of their meetings of the arrangement that had been made, which the board acquiesced in, *but neglected to enter it on their minutes.* The board refused payment for these extra services: Mr. Tatham applied for redress to the Commissioners, who recommended the Guardians to grant the required remuneration on the ground that it was *inequitable* to expect Mr. Tatham to perform the duties of surgeon to the fever hospital under his contract. The Guardians obstinately refused to act on this recommendation, as also upon other arrangements advised by the Commissioners, and the result was that the Commissioners themselves suggested to Mr. Tatham the advisability of *bringing an action at law* against the Board of Guardians. This was done; and at the trial the Board of Guardians pleaded their own neglect of duty in not entering the appointment of Mr. Tatham on their minutes as an answer to his claim. Judge Alderson, in indignation, said that the behaviour of the Guardians was a disgrace to the townships, and if he were an inhabitant he would commence a subscription forthwith to compensate Mr. Tatham for the losses he had sustained. In this case, either from prudential motives or legal difficulties, the central board could take no stronger step in a cause which it knew to be just, than advise a trial at law.

With respect to payment for medical service from the consolidated fund, that was the recommendation in the resolution of the Committee, which, if it could be carried out, would, he believed, be the simplest and best plan for adoption. It had not been agreed to without careful deliberation. Other plans had, however, been adverted to, and he therefore might be at liberty to suggest that, supposing the Government should deem it impracticable at the present time to alter the existing system in such a radical manner as this resolution proposed, but still resolved that the payments should be made from the local funds, the remuneration for medical service in such case might be afforded by a uniform rate per cent. being struck, by order of the Commissioners, upon the gross amount of rates raised in each union for general relief, exclusive of the establishment and incidental charges. The gross amount of rates are a standard of the poverty of a district, and the number of claimants,—the number of claimants of the liability of the medical officer; subordinate arrangements might be made to equalise perfectly the remuneration in a ratio to labour for the several medical officers of each union. He believed the Poor-Law Board had full power to enforce such an order. Mr. Ross, however, stated this to be a private view of the matter, and pressed the resolution of the Committee.

In answer to a question by Mr. **Baines**, relative to the power of appointing the medical officer on the assumption of payment of salaries out of the consolidated fund,

Mr. Ross stated, that it was contemplated to grant this power to the local authorities, by which the objection of giving undue patronage to a central board would be avoided, at the same that the boards having the right of electing in their judgment the best man as medical officer, should have no power of unfairly reducing his salary. He himself was daily becoming more convinced that the present system was based on a false principle, and that medical relief should be entirely separated from general relief, and treated as a distinct subject for legislation. Medical relief now constitutes a kind of right for general relief, and Boards of Guardians and Relieving Officers often refuse the one to avoid the liability of the other; thus inflicting a cruel injury on the poor, and throwing the odium of their own misdeeds on their medical officers: poverty is created by society itself, and is not generally so urgent as to prohibit the exercise of a discretionary power in the grant of relief: bodily suffering is a visitation from God, or an accident of nature, sudden, inevitable, imperative. The same machinery cannot be applied to circumstances so widely different in their nature, and he believed that the Poor Laws would never work satisfactorily until this separation was made.

After some further conversation, in which Dr. Hodgkin and others took part,

Mr. **Baines** stated, at the conclusion of the interview, that he was obliged for the opportunity that had been afforded him of gaining information and hearing statements, some of which were new to him; that being himself *new* in office, he could not speak positively as to the extent of his present authority. He again assured the Deputation that he was quite prepared to view the position of the medical officers as one calling for relief, and this rather as a matter of justice than mercy (alluding to Mr. Vallance's concluding remarks), he should feel it a duty to afford according to his power.

Mr. **Mitchell**, before the Deputation retired, put into the hands of the President a paper which stated, that in November last, when the cholera was absolutely existing, together with other epidemic diseases, in the parish of Lambeth, a conjoint application of seven of the district medical officers of the parish had been made to the Board of Guardians, requesting, in the emergency, additional assistance, or means to procure it, to enable them more satisfactorily to perform their onerous duties; that upon the refusal of the board to comply with this prayer, a memorial supporting its object was presented to the board signed by nearly all the respectable medical men of the parish, *most of the clergy*, *many of the respectable inhabitants*, and even some of the *magistrates*, which, although productive of no immediate benefit to the medical officers, clearly shows that growing sympathy with the greatly oppressed and suffering Poor-Law Medical Staff is being felt by the medical profession generally, and among the respectable orders of society, through whose combined influence it may be hoped that eventually important and salutary changes may be effected in the existing laws.

ANNUAL MEETING AT THE ROYAL COLLEGE OF CHEMISTRY.

On Monday last the annual meeting of the members of this College was held at the institution in Oxford Street; Sir C. Lambe in the chair. The report of the council stated the gratifying fact that they had succeeded in paying off the debt which had so long encumbered them; and the removal of the College from Hanover Square had caused a considerable reduction of expenditure. It was very desirable that a proper lecture-theatre should be constructed: the cost of it would not exceed £1,800, and it would render the establishment complete in all its appointments, besides forming an excellent hall or room for the holding of scientific *soirées*. The report of Dr. Hoffman stated that the number of pupils was on the increase, and, upon a review of the proceedings of the past year, it seemed likely that the object of the College,—viz. to send forth a number of students of all classes capable of applying a thorough knowledge of chemistry to useful and commercial purposes,—would be accomplished. The balance-sheet stated that at the commencement of 1848 there was a sum of £543. 12s. 4d. to the credit of the College, and that balance, joined to the income from all sources, made a total of receipts for the year of £3,191. 12s. 4d. The expenditure had fallen short of that sum by £400. 7s., which remained as a balance. This report was agreed to, as was also a vote for the reduction of the members of the council from 36 tc 18. A cordial expression of the thanks of the meeting was given to His Royal Highness Prince Albert, the President of the College. The meeting separated after the usual annual election of officers, and after a vote of thanks to the chairman.

WESTMINSTER MEDICAL SOCIETY DINNER.

The Society held its first anniversary dinner at the Thatched House Tavern, St. James's Street, on Thursday, the 24th ult. The chair was occupied by Francis Hird, Esq., the President. Among the visitors were Dr. Clutterbuck and Mr. Guthrie. Between seventy and eighty persons sat down to dinner. The usual loyal toasts were drunk. Mr. Guthrie returned thanks for the Army; but his observations were almost entirely confined to medical politics, and it is not necessary to allude to them in this place. The President, in drinking success to the Society, illustrated its widening importance by stating that 53 new fellows had been elected during the past session. A library was about being formed, and two numbers of "Proceedings" had already been published. Dr. Clutterbuck proposed the health of the President. The past Presidents, Vice-presidents, and Council of the Society were severally toasted. Dr. Webster, Dr. Murphy, and Mr. Wing, the President of the Council, severally returned thanks. The Treasurer and Secretaries were also duly acknowledged. The social harmony was maintained to a late hour.

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 31st of May, 1849:—Thomas Bryant, Kennington Common—William Cater, Northwold, Norfolk—Charles James Shearman, Rotherham—George Hulme Beaman, King Street, Covent Garden, London.

BOOKS & PERIODICALS RECEIVED

DURING THE WEEK.

The Cyclopædia of Anatomy and Physiology. Edited by R. B. Todd, M.D. F.R.S. Part 36.

London Journal of Medicine. No. 6; June 1849.

The British Record of Obstetric Medicine. No. 11, Vol. 2; June 1849.

The Laws of Periodic Growth and Development in reference to Education, &c. By Lieut. J. A. Walker.

Outlines of a New System of Physiognomy, illustrated by Engravings, &c. By J. W. Redfield, M.D. New York.

A Digest of several Reports on Sanitary Reform. By W. Simpson, Esq. Surgeon.

Bulletin Général de Thérapeutique. 10ème Livraison; 30 Mai, 1849.

Journal of Public Health. June 1849.

La Presse Médicale. No. 23.

General Board of Health. Report on Quarantine. 1849.

Anæsthesia; or, the Employment of Chloroform and Ether in Surgery, Midwifery, &c. By J. Y. Simpson, M.D. F.R.S.E. &c. Philadelphia, 1849.

Hospital Reports and other Official Documents, from the German.

The Skin in Health and Disease. By Thos. Innis, M.D.

Chloroform and Chloric Ether. By J. C. Warren, M.D. U.S.

Pathology of the Human Eye. By John Dalrymple, F.R.C.S. Fasciculus 2.

Practical Observations on the Diseases of the Uterus. By Robert Lee, M.D. F.R.S. Part 2.

Portraits of Diseases of the Skin. By Erasmus Wilson, F.R.S. Fasc. 5.

Surgical Anatomy. By Joseph Maclise, Surgeon. Fasciculus 3.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, June 2.

BIRTHS.		DEATHS.		*Av. of* 5 *Spr.*	
Males....	705	Males....	448	Males....	494
Females..	649	Females..	447	Females..	469
	1354		895		963

CAUSES OF DEATH.		*Av. of* 5 *Spr.*
ALL CAUSES	895	963
SPECIFIED CAUSES	892	959
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*..	209	198
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c. of uncertain seat	36	48
3. Brain, Spinal Marrow, Nerves, and Senses	104	123
4. Heart and Bloodvessels	46	39
5. Lungs, and other Organs of Respiration	127	131
6. Stomach, Liver, and other Organs of Digestion	69	62
7. Diseases of the Kidneys, &c...	13	11
8. Childbirth, Diseases of the Uterus, &c.	2	8
9. Rheumatism, Diseases of the Bones, Joints, &c.	6	8
10. Skin	4	1
11. Old Age.....	33	50
12. Sudden deaths	10	11
13. Violence, Privation, Cold, &c.	18	33

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	6	Convulsions	37
Measles	40	Bronchitis	49
Scarlatina	29	Pneumonia	56
Hooping-cough ..	51	Phthisis	118
Diarrhœa	16	Dis. of Lungs, &c..	7
Cholera	9	Teething	14
Typhus	23		
Dropsy	15	Dis. of Stomach, &c.	2
		„ Liver, &c...	14
Hydrocephalus....	27		
Apoplexy..........	18	Childbirth	2
Paralysis	12	Uterus............	0

REMARKS.—The total number of deaths was 68 *below* the weekly spring average.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 29·97
" " " Thermometer[a] ...... 60·3
Self-registering do.[b] .... Max. 97·8 Min. 41·

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 1·6.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 1°.6 *above* the mean of the month.

NOTICES TO CORRESPONDENTS.

Mr. W. Fraser, Aberdeen.—We shall have great pleasure in inserting the Queries on Medical Ethics at the earliest opportunity. A *proof* shall be forwarded.

The letter, signed R. W., on the Election of Members of Council of the College of Surgeons, can only be inserted with the name of the writer attached to it. There is nothing objectionable in its contents: it is a fair appeal to the judgment of the electors; but the fellows, whom the writer considers to be unworthy of a seat in the council, might very reasonably complain of their being marked out for rejection by an anonymous correspondent.

We cannot find room for Lists of Prizemen in the body of the journal.

The first part of Dr. Brinton's paper and the continuation of Dr. Black's contributions are unavoidably postponed until next week.

The cases forwarded to us by Mr. D. W. Crompton will be inserted.

Dr. Heslop's case of Sleep induced by Chloroform will appear next week.

S. T.—We know no one whom we can recommend. A good work on the subject is wanted.

The letters of Mr. Bellott and Mr. T. H. Wakley were too late for this number.

CORRIGENDA *in Dr. Mackenzie's Report of Cholera in Russia*, inserted in our numbers for March and April.—At p. 541, line 15 from bottom, for "and is recognised as being bronchial," read "and is recognised by the respiration being bronchial."—In same page, 3d line from bottom, for "has occurred to me before," read "has *not* occurred to any one before."—P. 587, line 9 from top, for "however limited," read "however timid."

THE GENERAL INDEX.

We have to announce to our Subscribers that a GENERAL INDEX to the *first* 40 *Volumes* of the LONDON MEDICAL GAZETTE will, it is calculated, form a large Volume of about 700 pages. The cost of the INDEX VOLUME, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. WILSON AND OGILVY, 57, Skinner Street, will receive the Names of Subscribers.

Lectures.

LECTURES
ON THE
PROCESSES OF REPAIR AND REPRODUCTION AFTER INJURIES.

Delivered at the Royal College of Surgeons of England.

By James Paget,
Professor of Anatomy and Surgery to the College.

Lecture I.

The phænomena of repair and reproduction are manifestations of the exercise of the same power as that by which the body was developed from the impregnated germ. Probability that the same power operates in the maintenance of the body by nutrition. Characteristics of the power of the impregnated germ. Evidence of the operation of the same germ-power in common nutrition, and in all normal organization: insufficiency of the accepted explanations of maintenance by assimilation and by succession of germs of tissues. Operation of the same power in repair and reproduction. Phænomena of reproduction of parts in the Hydra, and other Polypi; in species that can propagate by spontaneous fission and gemmation; in those whose development is with less or more apparent metamorphosis. Imperfection of nearly all reparative processes in the highest Vertebrata. Considerations on the purpose and analogies of the various processes for the recovery of lost perfection.

Mr. President and Gentlemen,—Many considerations led me to choose, for the subject of this year's lectures, the processes of repair and reproduction after injuries. The chief of them was in the fact, that the preparations in the pathological museum which illustrate these processes stand next in order after those which suggested the subjects of two former courses. But had I needed another motive for the choice, I might have found one in the advantage which my subject may derive from appearing, in a measure, supplemental to that with which my friend and colleague, Professor Owen, has occupied your attention. The mind, indeed, might gladly rest in the contemplation of such unhindered perfect works of Nature, as those of which he has discoursed; and it may at first seem an ungrateful task to turn from these, and consider the losses of perfection to which such works are liable, especially those losses which, being out of the ordinary course of Nature, abrupt and violent, we might expect would quite spoil the structure and the order of the living body. But, in truth, while studying the means by which living bodies, having suffered injury, regain their perfection, we may find continual manifestations of the same mysterious properties of the germ by which, through development, they first attained it. And in these manifestations we may discern the best evidence that, in developing the body to its perfection, the power of the germ is not lost, or quite exhausted, but rather is diffused through all the parts of the completed being; and that, so diffused, it works in them through all their life, determining, as with continuous design, every natural formative process, in accordance with the specific character of the individual. For I believe that we cannot form a just conception of the scope and nature of even the least of the processes of repair and reproduction after injury, or of the maintenance of the body in ordinary nutrition, or of its natural changes in the course of age, unless we admit that each organism, in its perfect state, retains, diffused through all its parts, some of the specific properties from which the power issued that actuated the impregnated germ in its development. I will therefore first ask for your attention while I endeavour to explain and establish this doctrine.

It is not a new doctrine, for the celebrated theory of the *nisus formativus*, which Blumenbach* maintained, might be expressed in nearly the same terms as I have used; and that which Müller and some others have held of "the organic force," and "the rational creative force," might easily be adapted to them; yet it seems necessary still to argue that such a doctrine should be received as a

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* Blumenbach's theory of the nisus formativus was raised in opposition to that of "pre-existent germs," and derives much of its meaning from its negations. He, mainly, held that generation and reproduction are "absque germinibus sed ex informi materie" (De Nisu formativo, p. x.)

His chief instances in proof are the cases of an malformations, for which there could not have been pre-existent germs, since the formations are the results of accidents or diseases occurring to the individual. Such are false membranes; sacs round foreign bodies; Wormian bones in hydrocephalus; teeth, hair, and bones, in ovarian cysts; various monsters, hereditary malformations, some acquired and then inherited national and other peculiarities,—as flat heads, short tails in horses, and the like. These, he says, prove a *nisus formativus*: these cannot be due to the evolution of pre existent germs. But he makes so little account of germs, that when he speaks (Specimen . . . inter animantia, p. 31) of nutrition as continued generation, and of reproduction after injury as the same repeated in single parts, he seems rather to have reduced development to the same rank as mere organic formation, than to have shown any relation between nutrition and what we now understand by development.

foundation in physiology. For the general tone of modern physiology is opposed to it, and of late years, especially, the cell-theory of Schleiden and Schwann, and the seeming accuracy which the progress of organic chemistry has given to our notions concerning assimilation, appear to have satisfied most physiologists that we have, in these, sufficiently good hypotheses for the explanation of the maintenance of the perfect organism by nutrition. If it were so, we might need no other hypothesis for the explanation of repair and reproduction; but it will appear, I think, that both in these, and in the processes of common nutrition, a power is in exercise which is not admitted by the cell-theory, or by organic chemistry,—a power continuous with that manifested in the germ, and acting in all essential things like it.

The characteristic property of an impregnated germ is, that when placed in favourable circumstances, all the materials of which it first consists, and all that it appropriates, are developed according to the same method as was observed in the development of its progenitors,—in other words, in conformity with what we may regard as a law of specific character. In all the wonders of development that my colleague has detailed, none, I think, appeared more marvellous than the constancy, the seeming tenacity of purpose, with which the germ is thus developed to the likeness of its parents. However vast its power of multiplication and increase,—however various its metamorphoses,—however far in some of these changes it may deviate from the form in which its parents generated it, — however near in some it may approach the perfect characters of another species,—or, which is stranger still, however much alike all germs may be in their primal structure and earliest developments,—yet, through all these things, each germ moves, with unswerving progress, guided by the same Power as created its first parents, to the formation of a being in which the parental form and properties are reproduced.

Now, the constancy of this result, and its little dependence on external circumstances, justify the expression that every impregnated germ has, in itself, and in the properties with which its Maker has endowed it, the power to develope itself into the perfection of an appropriate specific form. However mysterious the nature of such properties, we cannot deny their existence, or refuse to recognise a law (in the sense in which we generally use that term,) in the regularity with which the power acts that issues from them, when the germ is placed in favourable conditions. And, therefore, if it appear that this power is peculiar in its modes of operation, we may specialize it, whenever acting, as the "power of the germ," or "germ-power," in consideration of its having its apparent origin and intensest action in the germ.

Now, there are certain things observable in the development of a germ, so characteristic of the power exerted in it, that they may be used for determining the differences between this power, and any other supposed to be exerted in the living body, and therefore as tests for determining whether, in any instance after completed development, the same power is in exercise.

First, then, it may be observed, that as surely as the power of the germ tends always to the attainment of the perfection of the specific form, so is it strictly limited to the attainment and maintenance of that perfection, and to certain rules of time, and space, and mode of progress. The germ rarely falls short of its designed form, but it never goes beyond it,—no creature is known to attain by development a higher specific form than its parents had; and the differences of size, to which by growth the different individuals of a species may attain, are circumscribed in narrow limits. So, too, are the length of life, and, in narrower limits still, the periods and methods of development. Perfection, whether in the whole body, or in any of its parts or tissues, seems to be attainable only by certain methods appropriate to each species; there are certain fixed transitional forms to which the power of the germ, in its development, seems bound.

Wherever, then, in the full life of any creature, we see organic formation ensuing in conformity with these restricted laws, there, we may suppose, a power is in operation like that which actuated the germ.

But, secondly, it seems to be characteristic of the power of the impregnated germ, that it is diffused through many parts, which, whether they be like or unlike, are all directed to concur, with various time and measure, in the attainment of the design and destiny of the whole.

It is only in few and trivial instances that we can regard the development of one part or system of an embryo as the consequence of the development of another. Rather, the several systems and the parts of each are developed independently, though concurrently and commensurately. Thus, the primordial heart and blood-vessels of the embryo appear together, and are developed with corresponding progress; yet are they independent. Thus, too, there is concurrent development of the blood and the system for circulating and purifying it; yet neither development is, in any strict sense, the consequence of the other. Or, again, in smaller instances, there is a concurrent and commensurate development of each of the several parts of a limb, and of all the several limbs of an animal; yet each limb, and each part of each, is developed independently of all the rest. And, in yet more trivial instances, when even so small a thing as the formation of an arch by two outgrowing blood-vessels is to be effected, it is manifest that there must be concurrent development of both, in order that they may exactly meet and coalesce; but it is as manifest that neither of the vessels is so developed in consequence of the development of the other.

Now, when such development of different things in the same body, though mutually independent, are yet commensurate, and concur to the accomplishment of one design, it is surely because they are all dependent on the operation of one and the same power. Such a power, or, rather, the properties from which it issues, being thus diffused in the first instance through all the embryo-cells of the germ, would seem to be communicated to all their descendants, and to all the materials that they appropriate; so as to actuate them all, in conformity with the same law of tendency towards the attainment of the perfect specific form.

Now this character of being transmitted and diffused through a succession of heterogeneous forms, and of determining them all, by different means, to concur in the achievement of one design,—this seeming capacity of subordinating a multiplicity of processes to an unity of purpose,—this, again, appears to be so characteristic of the power of the germ, that wherever it is manifested, there we may suspect the same power acts.

But, thirdly, it is observable that the germ is not developed according to any model existing in it either before or after impregnation. Herein, more evidently, though not more truly, than in the former characters, the germ-power differs from that supposed to be exercised in the formation effected by mere assimilation of organic matter, as in the maintenance of the perfect organism by nutrition. In this process, all the material that is added to a part is supposed to be fashioned according to the model, and under the influence, of that in which it is inserted. In the germ, the future being and all its parts may be said to exist in power and tendency, but none is there in model or in rudiment. Even when far developed, and when just about to manifest its highest force, the germ appears scarcely more than a mere mass of similar and indifferent cells. But, presently, its cells concur to develope themselves into the several different members of a body, like that of their parent, when that parent was an embryo; and thenceforward all the cells that descend from these, and all the material that is added to the embryo, are developed into the likeness of the same parent at the successive and corresponding stages of its development. But, in no instance, in all the development of the embryo, is a part formed in precise imitation of one already present,—in no instance is there mere assimilation: the only model after which each germ is developed is that type, according to which, from the first, and by the Divine appointment, all the generations of its ancestors have been constructed.

Such are some of the characters that distinguish the operations of the impregnated germ in its development to the perfect form. These are such as few would endeavour to explain by a cell-theory, or by any doctrine of assimilation; for these, I suppose, all would admit that some peculiar power, issuing from the properties of a germ, is necessary.

But with the acquirement of this perfection, the power of the germ seems to be considered as terminated—at least in the higher animals; and the usual expressions of modern physiology would imply that henceforward, the power which acts in the maintenance and repair of the perfected body is not the same in either kind or measure as that which actuated the development of the germ. But let us now see whether we can be content with the explanation that is commonly given of this maintenance of the body.

The accepted doctrine in physiology seems to be, that each structure in the body has the power of taking from the blood, by a kind of elective affinity, certain appropriate materials, and of so influencing them that they assimilate themselves to it; *i. e.* they adopt or receive its form and properties, and incorporate themselves with it; or else it is held that each cell or structural element of a part, while developing itself into some higher form, leaves behind or produces germs, cytoblasts, or off-shoots, which shall pass through the same development as itself, and in due time succeed to its place and office.

Now, without doubt, the existence of such forces is justly assumed, and we may, by the help of these hypotheses, express correctly a part of the processes by which the maintenance of the body in its perfection is accomplished. The power of living parts to incorporate and assimilate to themselves new materials, seems proved by those instances, among many, in which an alteration, being once effected in the properties of a part, is maintained through life, although all the particles on which the alteration was originally effected may have passed away and been succeeded by new ones. Thus, *e. g.* the poison of small-pox or of scarlatina, being once added to the blood, presently affects the composition of the whole; the disease pursues its course, and, if recovery ensue, the blood will seem to have returned to its previous condition: yet it is not as it was before; for now the same poison may be added to it with impunity. In this respect, at least, it has been changed: it is no longer liable to the influence of that which, lately, could disturb the whole order of its life. What the change is that has passed on the blood in these and many similar cases,* we know not; but the change, once effected, may be maintained through life. And herein seems to be a proof of the assimilative force in the blood; for there seems no other mode of explaining these cases than by admitting that the altered particles have the power of assimilating to themselves all those by which they are being replaced: in other words, all the blood that is formed after such a disease deviates from the natural composition, so far as to acquire the peculiarity engendered by the disease: it is formed according to the altered model.

Again, as regards the maintenance of the body by the development of the successive germs or cytoblasts of previous structures, or of the offspring of persistent germs or germinal centres,—this may be established (at least as a reasonable hypothesis) by such cases as those of the human teeth, and hair, and the like. In these, each productive organ, while developing itself, gives off that which may serve for its reproduction, *i. e.* for the construction of its successor; and, from the analogy of the ordinary development of germs, we may say that in this rudimental structure there is the power necessary for the production of a new organ. We may, indeed, be nearly sure of it; because, if the germ be uprooted, the new organ is not formed.

With such evidence, we may admit the existence of the forces which are assumed in the doctrine of organic assimilation, and of the succession of tissue germs. Still it is, I think, proveable that such forces are not sufficient for the maintenance of the body in its perfection; and that, even where they do tend towards that end, or are essential to it, they act in subordination to that power which we recognise as determining the impregnated germ in its development, and as diffused through all the structures issuing from the germ.

For, in the first place, it is to be observed, that these usually received explanations of the maintenance of the several parts of the body in nutrition assume the existence, either of some structure to which, as to a model, the new materials may be made like; or, else, of something of the nature of a tissue-germ, which may be developed after the model of that from which itself was formed. Both assume a present, or lately present, model. But there are many instances in which new structures are formed for the maintenance of the body, where there is no model according to which the forming matter may shape itself, nor any parent-cell from which a reproducing germ may spring. Such are all the instances of formation for which, in a former course of lectures,* I suggested the term of "nutritive repetition," to distinguish them from the examples of nutritive reproduction such as I have just mentioned. I then referred, for illustration, to the different modes in which sets of teeth may succeed each other. In our own case, as the first or deciduous tooth is being developed, a part of its productive capsule is detached, and serves as a germ for the development of its successor; in which successor the first tooth may be said to be reproduced. But in such jaws as the shark's, and most other fishes, in which we see row after row of teeth succeeding each other, the row behind is not formed of germs derived from the row before, but the front row is repeated in the second, the second in the third, and so on.

This instance of nutritive repetition is one of a large class of similar facts. The new blood-corpuscles, that are being constantly formed for the renovation of the blood, are not developed from germs given-off from the old ones; neither are they formed by any assimilative force exercised by the old ones. By watching the stages of their construction, we may really see that the development of each is an independent repetition of the process by which the first was formed.† And so with the successive developments of ova and epithelial cells, and many others,—each is developed independent of the rest, and each repeats the changes through which its predecessor passed.

It is useless to multiply instances; else they might be very numerously cited; and, numerous as they are, the theory of nutrition by assimilation, or by the development of successive cytoblasts, is inapplicable to them all,—not merely insufficient, but inapplicable; for a postulate of this theory is the existence of a present model or germ for the construction of the forming part; and in all these cases no such germ or model can be found.

But, on the other hand, when it appears that the development of each new part is a repetition of the development of its predecessors, and even of the first-formed among them, then surely we may admit that they are all, from first to last, formed by the continuous operation of the same power,—the power which begins to work in the impregnated germ, and continues acting for the maintenance or the successive orderly changes of the forms it first constructed.

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* Such as are enumerated in the "Lectures on Nutrition," &c. in the MEDICAL GAZETTE, 1847.

* MEDICAL GAZETTE, 1847.

† The process is described in Kirkes' Physiology, p. 65, from the Lectures on the Life of the Blood, delivered in 1848.

But I have said that, in instances in which we may discern the operation of an assimilative force, or the existence of cytoblasts or tissue-germs, we must also admit that these are controlled by the same power derived from the embryo germ. I will adduce but two examples. I have mentioned, as the best instance of an assimilative force, the persistence of alterations once produced by disease in the blood or any tissue; but we know that after a time these alterations are often obliterated, and the blood or tissue returns to its perfect state. By what power?—Not by that of assimilation: that should keep it always the same; we cannot understand assimilation as effecting only a near resemblance; it must produce the very image. By what power, then, is the natural state restored? surely it must be by the same power which determined the whole course of development, from the very germ, which was for a time subjugated by the effects of the disease, but now again brings the diseased part to the same condition as it would have been in, had no morbid change been effected in it.

Again, we speak of the germs of tissues as enough to explain the formation, or reproduction, of the second tooth, and the successive generations of hairs, of muscular fibres, and some other tissues. But, to take the second tooth for an example of this class of cases: it is not like the first, from whose formative organs it derived its germ, but like the corresponding second tooth of the parent. What, then, determined this difference? Not, surely, the independent power of the germ or gemmule derived from the sac of the first tooth, for it is the essential character of germs to imitate precisely in their development those forms from which they sprang.

The teeth herein present an instance of a general rule, that changes supervene as the replacing elements of tissues succeed to one another. In every tissue, for example, the progress of age makes differences. In the continual mutation of particles by which each tissue is maintained in ordinary nutrition, there is a gradual change of form or composition, and the old tissues are manifestly different from the young. Such changes are equally inconsistent with the doctrine of assimilation, and with that of the successive development of tissue-germs; for the powers assumed in those hypotheses could do nothing but produce from first to last the self-same forms.

Thus, then, in nutrition we find many instances in which the doctrines of assimilative force and of tissue-germs are quite inapplicable: in many more, where such forces as they assume do operate, they yet seem insufficient for the end attained. But the same things which thus prove the insufficiency of these doctrines, are evidences for the truth of that which I have endeavoured to maintain. Especially so are those gradual changes which ensue as life advances; for these, you will observe, answer to all those which were noted as characters of the operation of germ-power. Thus, they are all, in each individual, repetitions of the changes which, in corresponding times, occurred in its progenitors. These changes, as much as any of the stages of earlier development to perfection, occur in conformity with a specific law: they are as much marks of specific character as are any of the earlier transitions, or the perfect features of the individual. In all instances, moreover, the formative processes of the full and later life are limited, as in the germ, to certain periods and methods of development or degeneration; in all, the changes that ensue are concurrent and commensurate in many parts, yet, in each, they are independent of the rest; and they are all effected without any present model.

On the whole, then, since we see that the continual mutation of particles for the growth and maintenance of the living body by nutrition manifests, in all essential things, the peculiar features that characterised the first formation of the same body from the germ, we seem justified in holding that it is one and the same power which, being maintained continuously from the germ to the latest period of normal life, determines all organic formation. Whatever be the properties of the germ from which this formative power emanates, they must, in due measure, be communicated to all the materials that the germ appropriates, and, successively, to all that enter into the construction of the developing body; so that in all its living parts there is a measure of the same power as was most vividly concentrated in the germ. Under this power, the organic assimilative force, in some instances, and the production of successive tissue-germs in others, appear to work as subordinate agents; but in many instances, as in the formation of blood, the power seems to act more directly upon amorphous organic matter, which in the perfect body, as in the germ, it informs according to the law of specific character.

If what has been said appear sufficient to prove the operation of the germ-power in the ordinary maintenance of the body, *i. e.* for the reproduction of particles which are absorbed or cast off at the term of their natural life, then more than sufficient evidence for the same opinion will appear in the phenomena of repair and reproduction after injuries. These, occupying, as it were, a middle place between the phenomena of embryonic development and those of ordinary nutrition, have of late been alternately, or in different instances, referred to one or the other of the different powers by which those phenomena are supposed to be governed. But, probably, the likeness of the phenomena of reproduction to those of both nutrition and embryonic development should have suggested, as they did to Blumenbach and Treviranus,* that all the three are manifestations of one and the same power. That they are so, will be evident, I think, in what I shall have to describe in the following lectures. For, 1st. it will be clear that repair and reproduction cannot be in any case explained as the result of assimilation or by the succession of tissue-germs. In grave injuries and diseases, the parts that might serve as models for the new materials to be assimilated to, or as tissue-germs to develope new structures, are lost or spoiled; and yet the effects of injury and disease are recovered from, and the right specific form and composition are regained. And, secondly, if we watch the manner in which the recovery is achieved, we shall discern in it all those characters which mark the operations of the power of the germ. We shall see that the reproduced parts are formed, not according to any present model, but according to the appropriate specific form, and often with a more strikingly evident design towards that form, as an end or purpose, than we can discern in the natural construction of the body. We shall see, too, that in this re-formation there is an independent, though concurrent, development of many parts; and that the whole process is limited by the same restrictions of time, and space, and exact method, as those observed in the original development of the parts. This, also, may be added to the arguments already adduced to prove the continuous action of the germ-power through life, and its slight variation therein; that when, in an adult animal, a part is reproduced after injury or removal, it is made conformable, not to that condition which was proper to it when it was first formed, or in its infantile life, but to that which is proper according to the time of life in which it is reproduced—proper, because like that which the same part had, at the same time of life, in members of former generations. In the reproduction of the foot or the tail of the lizard, they grow, as it were, at once into the full dimensions proper to the part, according to the age of the individual. Spallanzani expressly mentions this: — that when a leg is cut from a full-grown salamander, the new leg and foot are developed, as far as form and structure are concerned, just as those of the larva were; but as to size, they from the beginning grow and are developed to the proper dimensions of the adult. The power, therefore, by which this reproduction is accomplished, would seem to be, not the mere revival of one which, after perfecting the body, had lapsed into a dormant state, but the self-same power which, before the removal of the limb, was occupied in its maintenance by the continual mutation of its particles, and now engages itself, with more energy, in the reconstruction of the whole.

The power to repair the damages sustained by injury, and to reproduce lost parts, appears to belong, in some measure, to all bodies that have definite form and construction. It is not an exclusive property of living beings; for even crystals will repair themselves when, after pieces have been broken from them, they are placed in the same conditions in which they were first formed. I know not what amount of mutual illustration, if any, the repair of crystals and living bodies may afford; but, in any case, we may trace here something like an universal property of bodies that are naturally and orderly constructed: all, in favourable circumstances, can repair at least some of the damages to which they are liable from the violence of external forces.

But, to speak only of the repair and reproduction that occur in the several orders of the animal kingdom: among these they exist in singularly different degrees, and in such as can be only partially included in rules or general expressions. The general statement sometimes made, that the reparative power in each species bears an inverse ratio to its position in the scale of animal life, is certainly not proved; and many instances are contrary to it, such as the great reparative power possessed by the Triton and other lizards, and the apparently complete absence of it in the perfect insects. Rather, the general rule which we may expect to find true, and for which there is already much evidence, may be, that the reparative power bears an inverse proportion to the amount of germ-power consumed in the development and growth of the individual, and in its maintenance in the perfect state.

Our ideas of the consumption of power in the organization of matter, are, perhaps unavoidably, very vague: yet are there facts enough to prove that the power which can issue from the mysterious properties of a germ is limited; that it is not ever communicated to an indefinite quantity of matter;

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* Biologie, iii. 522.

and there are enough to justify the hypothesis, that the germ-power, thus limited, is in some measure consumed in the development of every new structure, and, in a less measure, in the growth and maintenance of those already formed. The instances to which I shall refer are explicable on this hypothesis, and are, therefore, evidences of its probability.

First, then, it appears constantly true, that the reparative power is greater in all parts of the young than of the older individuals of all species. Even when we compare individuals that have all attained their highest development and growth, this rule seems to be true. We know it from general observations of the results of similar injuries and diseases in persons of different ages: numerous as the exceptions may be, the general rule seems true. And it is yet more evidently proved in the case of some lower animals Spallanzani mentions it expressly in regard to the reproduction of the tail of the tadpole. The quickness with which the work of reproduction is both begun and perfected, was always, in his experiments, in an inverse ratio to the age of the tadpole. He says the same for the reproduction of the legs of salamanders, and it is only in young frogs and toads that any reproduction of the limbs will take place. So, too, in experiments on the repair of fractures, the union of tendons and the like, in the Mammalia: one may see abundant evidence that the vigour and celerity of the process are in an inverse proportion to the animal's age. There is, indeed, some reason to believe, that in the very early period of embryonic life, a true reproduction of parts of limbs may take place, even in the human species; for (not to speak of the possibility that supernumerary members may sometimes have been formed in consequence of accidental fission of the budding limbs of the embryo), there are some cases in which fingers are found on the stumps of arms in such circumstances as jus i'y the belief that after a limb had been accidentallly amputated in the uterus, these had been produced on its remaining portion.

All these facts agree well with the belief that the germ-power is gradually diminished in the acts of organizing matter for the maintenance of the body; and the difference between the reparative power in children and that in adults appears so much greater than the difference in adults of different ages, that it is probable the germ-power is more diminished by growth than by mere maintenance.

However this may be, it seems certain that the capacity for the repair or reproduction of injured parts is much more diminished by development than by growth or maintenance of the body; *i. e.*, much more by those transformations of parts by which they become fitted for higher offices, than by the multiplication or maintenance of those that are already perfect in their kind and function. In other words, to improve a part requires much more, and more perfect, formative power, than to increase it does.

This, as a general principle, is exemplified in many instances. In the greater part of congenital malformations we find arrest of development, but no hindrance of growth; as a heart, in which a septum fails to be developed, yet grows to its full bulk. So, if tadpoles be excluded from due light and heat, their development will be much retarded, but their growth will be less checked. So, too, in the miscalled cultivation and improvement of flowers, growth is increased, but development is hindered; and an excess of coloured leaves is formed, instead of the due number of male and female organs. Or again, in an old ulcer or a sinus, cells may be continually reproduced, maintaining or even increasing the granulations, yet they will not develope themselves into cellular tissue and cuticle for the healing of the part; and so, even when repair and reproduction have gone far towards their ultimate achievement, that which takes a longer time, and oftener fails, is the improvement, the perfecting, of the new material, by its final development. This is observed in all cases of reproduced limbs, and even in ordinary scars.

These facts (and there are many others like them) seem to justify the expression that, not only more favourable conditions, but also a larger amount of organizing force, is expended in development than in growth. If we may thus interpret the facts, they will be collateral evidence for the belief that, in different species of animals, the reparative power will bear an inverse ratio to the amount of development already passed through; so that, for each species, in its perfect state, the reparative power might be measured by the degree of likeness between the embryonic and the perfect form, structure, and composition. T. e greater the sum of dissimilarities in all these respects between the embryo and the perfect animal, the less seems to be the reparative power in the latter.

It is consistent with this that the highest amount of reparative power exists in those lowest polypes, in which, as my Colleague has so ably argued, the materials of the germ-mass yet remain, not transformed, but multiplied, and, as it were, grouped into the shape of their bodies. In the fresh-water Hydra, the power of the germ appears communicated without loss to all the cells that descend by multiplication from the original germ-cells; provided only the cells are not developed into higher forms or into subserviency to special functions. In the Hydra viridis, and Hydra fusca, it seems literally true that any minute cluster of cells, derived by mere multiplication from those of the germ-mass, may, after being separated from the perfect body, reproduce the perfect form. This is the general truth of the numerous experiments performed on Hydræ by Trembley, Roesel, and others. They have been so often quoted, that I need not do more than mention the greatest instances of reproductive power that they showed.

Trembley cut an Hydra into four pieces: each became a perfect Hydra; and while they were growing, he cut each of these four into two or three. These fractions of the quarters being on their way to become perfect, he again divided these, and thus he went on, till from the one hydra he obtained fifty. All these became perfect; he kept many of them for more than two years, and they multiplied by their natural gemmation just as much as others that had never been divided. So that a division by fifty did not perceptibly diminish the power of the germ present in the polype that was thus subdivided. Again, he cut similar polypes longitudinally, and in an hour or less each half had rolled itself, and seamed up its cut edges, so as to be a perfect Hydra. He split them into four,—he quartered them,—he cut them into as many pieces as he could, and nearly every piece became a perfect Hydra. He slit one into seven pieces, leaving them all connected by the tail, and the Hydra became seven-headed, and he saw all the heads eating at the same time. He cut off the seven heads, and, hydra-like, they sprang forth again. And even the fabulist dared not invent such a prodigy as the naturalist now saw. The heads of the Lernæan Hydra perished after excision: the heads of this hydra grew for themselves bodies, and multiplied with as much vigour as their parent-trunk.

Now these instances may suffice to show that in the lowest polypes the process of reproduction after injury confounds itself with that of their natural generation by gemmation, or, as it probably more rarely happens, by spontaneous fission. We cannot discern a distinction between them; and there are some things which seem to prove the identity of the power which operates in both. Thus, in both alike, the formative power is limited according to the specific characters of the Hydra: immense as the power of increase is, which may be brought into action by the mutilations of the Hydra, yet that power cannot be made to produce an Hydra of much more than ordinary size, or to raise one above its ordinary specific characters. And again, the identity of the power is shown in this,—that the natural act of gemmation retards that of reproduction after injury. Trembley particularly observes, that when an Hydra, from which the head and tentacula had been cut off, gemmated, the reproduction of the tentacula was retarded soon after the gemmule appeared.

The instance of the Hydra is only one of many proving it to be a general law, that a large power of repair and reproduction after injury exists in the species in which propagation by spontaneous fission, or by gemmation, is possible. I need not say how consistent this is with Professor Owen's doctrine,—that Partheno-genesis, or the capacity of generating without previous impregnation of the parent, is dependent on a retention of a part of the original germ-cells, or of their direct and untransformed descendants, within the body of that parent. Wherever such cells are, there is the power, without the need of impregnation, of producing a new individual; and in all the instances in which such cells form part of the general substance or parenchyma of the body, an injury may be said to act only as a stimulus, exciting the premature exercise of a ready power, which, in the natural case, appears as the generative, but, in the accidental case, appears as the reparative power.

I need not enumerate the species which manifest this coincidence of the power of propagating by gemmation or fission, and of reproducing large portions of the body, and even of reconstructing, from fragments, the whole body. They include, as chief examples, the Actiniæ, which after bisection form two perfect individuals,—and the Holothuriæ, which, as Sir J. G. Dalyell has observed, when hurt or handled, will eject all their viscera, leaving their body a mere empty sac, and yet in three or four months will have all their viscera regenerated. They include, also, from among the Anellata, the young Nereids, and those species of Nais, on which Bonnet, Spallanzani, and others, made their marvellous experiments,—experiments of which the climax seemed to be achieved when a Nais was cut by M. Lyonnet into thirty or forty separate pieces, and there were produced from those fragments as many perfect individuals.

Instead of dwelling on these instances, let me mention some observations, made by Sir J. G. Dalyell, upon other polypes, which seem calculated to illustrate in a remarkable manner the general laws of the reparative processes in even the higher animals.

In the Hydra Tuba,—the species of which he has traced that marvellous development into Medusæ,—he has found that when cut in halves, each half may regain the perfect form; but this perfect form is regained only very slowly, and, as it were, by a gradual improvement of parts that are, at first, ill-formed. The diagram, copied from his plate, shows these stages of improvement. The fact may possibly be explained (as he suggests) by the mutilation having disturbed the progress of the Hydra in its development of young Medusæ; for the experiment was made in March, nearly at the time when the series of changes should have commenced. But, if I may venture not to accept the suggestion of so admirable an observer, I should suspect rather that this is an instance of gradual recovery of perfection, such as we see more generally in the repair of injuries and diseases in the higher animals.

He has noticed something of the same kind, and more definite, in the Tubularia indivisa, one of his experiments on which is illustrated by this diagram, copied from his representation of it. A fine specimen was cut near its root, and after the natural fall of its head, the summit of its stem was cloven. An imperfect head was first produced, at right angles to the stem, from one portion of the cleft; after its fall, another and more nearly perfect one was regenerated, and, as it grew, improved yet more. A third appeared, and then a fourth, which was yet more nearly perfect, though the stem was thick, and the tentacula imperfect. The cleft was almost healed; and now a fifth head was formed quite perfect; and after it, as perfectly, a sixth and seventh head. All these were produced in fifteen months.

The lower half of this specimen had been cut off four months after the separation of the stem. Its upper end bore—first, an abortive head; then secondly, one which advanced further in development; a third, much better; and then, in succession, other four, which were all well formed.

The upper portion of this lower half of the stem now showing signs of decay, a portion was cut from its lowest part, and further manifested the reproductive power of the stem; for three heads were produced from the upper end of the piece cut off, and four from the lower end of the upper piece which had seemed to be decaying. In 550 days this specimen had grown 22 heads.

Now, I cannot but think that we have, in these instances of gradual recovery from the effects of injury, a type of that gradual return to the perfect form and composition, which are noticed in the higher animals. Our theory of the process of nutrition leads us to believe that in the constant mutation of particles in nutrition, those elements of the blood, or of any structure that have been altered by disease, in due time degenerate or die, and are cast off or absorbed, and that those which next succeed to them partake, through the assimilative force, of the same morbid character; but that, every time of renewal, the new particles, under the influence of the germ-power, approach a step nearer to the perfect state. Thus, as it were, each generation of new particles is more nearly perfect, till all the effects of the injury or the disease are quite obliterated. Surely, in the gradual recovery of perfection by these polypes, we have an apt illustration of the theory,—one which almost proves its justice.

The power of reconstructing a whole and perfect body, by the development of a fragment, is probably limited to the species that can propagate by spontaneous fission or gemmation, or that increase their size, as some of the Annellata do, by the successive addition of rings that are developed after the manner of gemmules from those that precede them. Where this power is not possessed, there, whatever be the position of the species in the animal scale, the reparative power appears to be limited to the reproduction of lost members,—as legs, claws, a part of the body, the head, an eye, the tail, and the like: yet, within this limit, the rule seems again to hold good,—that the amount of reparative power is in an inverse ratio to that of the development, or change of structure and mode of life, through which the animal has passed in its attainment of perfection, or on its way thitherward.

Here, however, even more than in the former cases, we need, not perhaps more experiments, but experiments on a larger number of species. It appears generally true, that the species whose development to the perfect state is comparatively simple and direct, have great reparative powers; while many, at least, of those in which the development is with such great changes of form, structure, and mode of life, as may be called metamorphosis, retain in their perfect state scarce any power for the repair of losses. Yet we want more instances of this; and especially, it were to be wished that we had the results of experiments upon the lowest animals that pass through such metamorphoses *e. g.* on the Hydra Tuba, not only in its Hydra state, but in all the changes that succeed, till it attains its complete Medusa form.

In the absence of such evidence as experiments of this kind might furnish, the best examples of this rule are furnished by the experiments of Mr. Newport. They show that among the insects, the reparative power, in the complete state, is limited to the orders in which that state is attained by a comparatively simple and direct course of development—as the Myriapoda and Phasmidæ, and some of the Orthoptera. These can reproduce their antennæ, and their legs, after removal or mutilation; but their power of reproduction diminishes as their development increases,—and, even in the Myriapoda, whose highest development scarcely carries their external form beyond that of the larvæ of the more perfect insects,—even in these, such reparative power apparently ceases, when, after the last casting of their integuments, their development is completed.

In the higher hexapod insects, such reproduction has been seen in only the larval state,—none of them, in its perfect state, can reproduce an antenna, or any other member. The Myriapoda, then, are, in their reparative power, equal to the larvæ of the higher insects, and nearly all the germ-power which these manifest, appears to be exhausted in the two later metamorphoses.

The case is the stronger, as illustrating the expenditure of germ power in metamorphoses, when the higher insects are compared with the Arachnida; for in these, which attain their perfect state through more direct development, the reparative power remains equal to the reproduction of limbs and antennæ. A yet stronger contrast is presented between the higher insects and the several species of salamander in which so profuse a reproduction of the limbs has been observed; for though they be so much higher in the scale of animal life, yet the amount of change in external form and habits of life through which they pass in their development from the embryo to the perfect state appears less than that accomplished in the metamorphoses of insects.

Many instances, besides those which I have cited, appear to support this rule, that the reparative power in each perfect species, whether it be higher or lower in the scale, is in an inverse proportion to the amount of change through which it has passed in its development from the embryonic to the perfect state. And the deduction we may make from them is, that the power for development from the embryo is identical with that exercised for the restoration from injuries: in other words, that the power is the same by which perfection is first achieved, and by which, when lost, it is recovered.

This is, again, generally confirmed in the instances of the Vertebrata; but of the repair in these, or at least in the highest of them, I shall have to speak so exclusively in the future lectures, that I will now only say that, in the highest Vertebrata, and in man, a true reproduction after loss or injury seems limited to three classes of parts:—

1. To those which are formed entirely by nutritive repetition,—such as the blood and the epithelia.
2. To those which are of lowest organization, and (which seems of more importance) of lowest chemical character,—as the gelatinous tissues, the cellular and tendinous, and the bones.
3. To those which are inserted in other tissues, not as essential to their structure, but as accessories, as connecting or incorporating them with the other structures of vegetative or animal life,—such as nerve-fibres and blood-vessels.

With these exceptions, injuries or losses in the human body are capable of no more than repair, in its more limited sense; *i. e.* in the place of what is lost, some lowly organized tissue is formed, which fills up the breach, and suffices for the maintenance of a less perfect life.

I may thus state the sum of what I have endeavoured to establish. We recognise in the impregnated germ properties which, in favourable conditions, issue in the manifestation of a power capable of developing it into the perfection of a certain specific form and structure: that perfection is maintained through part of the life of the complete being, and is maintained by means, to the explanation of which the accepted doctrines of the assimilative force and of the successive development of tissue-germs are either inapplicable or insufficient. But its maintenance is explicable with the hypothesis that the same power as that which was manifested in the development from the germ is still in action, and actuates, as it did in the germ, all organization in conformity with the law of the specific character. So, too, the gradual changes that ensue in the course of life, after the attainment of the most perfect state, may be referred to the continuous operation of the same power, modified in each individual according to the specific type which has been observed in all the members of the same species. And, finally, the same power, working with an apparently increased energy, determines the restoration of lost parts, and the repair of injuries,—working, in all cases, towards the restoration of the perfection of the specific form, by the same means, and in the same method, and within the same limits.

There are yet some topics which I will crave your indulgence that I may suggest for your consideration, if only as an apology for a lecture in which I may seem to have been discussing doctrines that can hardly be applicable to our daily practice, and with illustrations drawn from objects in which, as surgeons, we may have but little interest. Let me, then, express my belief that, if ever we are to escape from the obscurities and uncertainties of our art, it must be through the study of those highest laws of our science, which are expressed in the simplest terms in the lives of the lowest orders of creation. It was in the search after the mysteries — that is, after the unknown highest laws—of generation, that the first glance was gained of the largest truth in physiology—the truth of the development of ova through partition and multiplication of the embryo-cells. So may the study of the repair of injuries sustained by the lowest polypes lead us to the clearer knowledge of that law, in reliance upon which alone we dare to practise our profession,—the law that lost perfection may be recovered by the operation of the power by which it was once achieved. Already, in the facts that I have quoted from Sir Graham Dalyell, we seem to have the foreshadowing of the facts through which the discovery may be made.

And let us not overlook those admirable provisions which we may find in the lives of all that breathe, against injuries that, but for these provisions, would too often bring them to their end before their appointed time, or leave them mutilated to complete a painful and imperfect life. We are not likely to undervalue, or to lose sight of, the design of all such provisions for our own welfare. But we may better appreciate these if we regard them as only of the same kind as those more abundantly supplied to creatures whom we are apt to think insignificant: indeed, so abundantly that, as if with a consciousness of the facility of repair, self-mutilation is commonly resorted to for the preservation of life. When the Ophiura, or any of the brittle Star-fishes, break themselves to fragments, and disappoint the grasp of the anxious naturalist, they probably only repeat what they are instinctively taught to do, that they may elude the jaws of their more ravenous enemies. But death would be better than such mutilation, if their rays could not be reproduced almost as easily as they can be rejected. The experimentalist, too, who cuts off one or the other end of any of the Anellata, perhaps only puts them to a necessity to which they are liable from the attacks of their carnivorous neighbours. Almost defenceless, and so easily mutilated, their condition, were it not for their faculty of reproduction, might be more deplorable than that of any other creature; and even their existence as species might have been endangered long ago. It would almost seem as if the species that have least means of escape or defence from mutilation were those on which the most ample power of repair has been bestowed;—an admirable instance, if it be only generally true, of the beneficence that has provided for the welfare of even the least (as we call them) of the living world, with as much care as if they were the sole objects of the Divine regard.

Lastly, if I may venture on so high a theme, let me suggest that the instances of recovery from disease and injury seem to be only examples of a law yet larger than that within the terms of which they may be comprised,—a law wider than the grasp of science,—the law that expresses our Creator's will for the recovery of all lost perfection. To this train of thought we are guided by the remembrance that the healing of the body was ever chosen as the fittest emblem of His work whose true mission was to raise man's fallen spirit and repair the injuries it had sustained; and that once, the healing power was exerted in a manner purposely so confined as to advance, like that which we can trace, by progressive stages to the complete cure. For there was one, upon whom, when the light of Heaven first fell, so imperfect was his vision, that he saw, confusedly, "men, as trees walking;" and then, by a second touch of the Divine Hand, was "restored, and saw every man clearly." Thus guided by the brighter light of revelation, it may be our privilege, while we study the things of which I have been speaking, to gain, by the illustrations of analogy, a clearer insight into the Oneness of the plan by which things spiritual and corporeal are directed. Even now, we may trace some analogy between the acts of the body and those of man's intellectual and moral nature. As in the development of the germ, so in the history of the human spirit, we may discern a striving after perfection,—after a perfection, not viewed in any present model (for the human model was marred almost as soon as it was formed), but manifested to the enlightened Reason in the "Express Image" of the "Father of Spirits." And so, whenever, through human frailty, amid the violences of the world, and the remaining "infection of our nature," the spirit loses aught of the perfection to which it was once admitted, still its implanted Power is ever urgent to repair the loss. The same Power, derived and still renewed from the same Parent, working by the same appointed means, and to the same end, restores the fallen spirit to nearly the same perfection that it had before. Then, not unscarred, yet living—"fractus sed invictus"—the Spirit still feels its capacity for a higher life, and presses to its immortal destiny. In that destiny the analogy ends. We may watch the germ-power developing the body into all its marvellous perfection and exact fitness for the purpose of its existence in the world; but, this purpose accomplished, it passes its meridian, and then we trace it through the gradual decay of life and death. But, for the human Spirit that has passed the ordeal of the world, there is no such end. Emerging from its imprisonment in the body, it soars to the element of its higher life: there, in perpetual youth, its powers expand, as the vision of the Infinite unfolds before it; there, in the very presence of its Model, its Parent, and the Spring of all its Power, it is "like Him, for it sees Him as He is."

Original Communications.

CONTRIBUTIONS TO THE

PHYSIOLOGY OF THE ALIMENTARY CANAL.[*]

By William Brinton, M.D. Londin.
Demonstrator of Anatomy in King's College, London.

a. ON THE MOVEMENTS OF THE STOMACH.

I. *The anatomy of its muscular coat.*—There is little necessity here to dilate upon the well-known structure of the muscular stratum of this organ. That there is an external plane of longitudinal fibres, and an internal and transverse layer immediately beneath this, would be almost a sufficient description in the case of the simple-stomached mammals; and an alteration in the disposition of these layers relatively to the surface constitutes the chief difference at present made out in the majority of the fishes, the longitudinal layer being for the most part internal to the circular.

In man and some of the higher mammalia, descriptive anatomists have sought to distinguish a third layer, which, lying deeper than the two preceding, is directed from the right of the cardiac orifice over the large extremity of the stomach on its anterior and posterior surfaces, expanding as it descends, and returning into itself at the lower border of the viscus. But the situation of this layer,—immediately beneath the ordinary circular fibres, and with difficulty or not at all separable from them,—together with its direction,—transverse to the altered axis of the recurved and enlarged tube,—seem to render it fairly inclusible in the category of transverse fibres,—transverse, not to the apparent horizontal axis of the organ from the pylorus to the large extremity, but to that real axis of the tube which occupies its centre, and is terminated by its orifices.

It deserves, however, to be remembered, that a considerable difference exists in the amount of muscular tissue present in different parts of the stomach. In about the pyloric half of the organ, its muscular coat is perceptibly thicker, and the variation, like some analogous to it which are met with in other animals, chiefly affects the transverse fibres.[*]

II. *The muscular actions of the stomach.*—Of the movements which are the immediate function of this contractile apparatus, little seems to be known. Haller[†] considered that there was an alternate peristaltic and anti-peristaltic action, which urged the food in corresponding directions, now forwards, now backwards; and this resulted in a kind of churning of the alimentary matters. In support of this doctrine he adduces both observation and argument.

Under the first of these heads, his chief authority appears to be the experience of Wepfer, to the 87th and 251st pages of whose "Mémoire sur la Cigüe aquatique" he refers. One of these passages, however, is a general statement, and not a narrative of an occurrence; while the other offers no identity with the fact sought to be established. The observation of a "nunc sursum, nunc deorsum" movement, in the duodenum of a vivisected animal, from which the stomach had recently been cut, is scarcely any index of the probable ordinary movements of a healthy stomach *in situ*, far less a proof of what they really are. The argument made use of is that of necessity: a physical dilemma is attempted to be laid down. "Both orifices being shut, either the stomach must be quiescent, or the food must be sent by alternate movement backwards and forwards:" again, "if the course of contraction were simply forwards, the food would remain but a very short time in that organ." But the latter objection requiring that the pylorus should be open, will not, I think, demand a separate answer: the first can only be received with the great caution due to such methods of arriving at facts, and the error on which it is based will be pointed out in the course of this paper.

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[*] This essay was written considerably more than a year ago.

[*] I have purposely forborne reference to the so-called "transverse ring" which exists at the junction of the pyloric and cardiac portions. It is more properly included in the contractions of the stomach, for though remarkably distinct during these movements, yet anatomy fails to recognise a distinct band, or even any exaggeration of the ordinary circular fibres sufficient to merit a separate description.

[†] Vol. 6, p. 276.

Somewhat similar to the opinion of Haller is the explanation given by Beaumont, of the movements impressed on the food. From these he deduces, that contraction occurs in alternately reversed directions; but it would also appear that he considered a kind of rotation of contraction to obtain, by the preponderant share of the greater and lesser curvatures in these alternate movements. But his views on this point are by no means clearly stated.

It is allowable, I think, to point out the simple structure and arrangement of these muscular strata, and to note their great similarity in every respect but quantity to those of the remaining portion of the alimentary canal. From these as data we might almost argue, *à priori*, the improbability of their possessing any but analogous contractile powers; and the probability that the peristalsis of the simple tube of intestine, or of the simple tubular stomach, would scarcely be so greatly altered in quality by the mere pouching of one part of its surface or the exaggeration of one of its sides, as to be changed from a simple forward contraction into a complex alternate or rotary movement; the immediate agents of that movement remaining so little affected as they are known to be in the human stomach and those of similar shape. But it will be preferable to any such speculations to examine into the facts themselves, so far as we may be able, and to inquire,—What movements of the stomach are seen on laying open the abdomen of an animal, and what are their characters and varieties?"

In many of the lower animals the progressive peristalsis which obtains in other parts of the alimentary canal, is certainly retained as the stomachal movement; and in fishes generally it has been thus described by Professor Owen.* "The muscular action of a fish's stomach consists of vermicular contractions, creeping slowly in continuous succession from the cardia to the pylorus, and impressing a two-fold gyratory motion on the contents; so that, while some portions are proceeding to the pylorus, other portions are returning towards the cardia."

Some of the carnivorous mammalia, as the dog and cat, offer, in addition to other advantages, that of possessing a stomach which in shape closely resembles the human organ; and it is to these animals that the following observations directly apply. One source of error which might be thought unavoidable, is the stimulating effect which results from the admission of air to the peritoneal surface; but though in the case of the intestines the effect of this irritation is so great as seriously to interfere with the practical utility of observations, if not completely to mar their efficiency, yet its influence on the stomach is so slight that it might safely be dismissed from notice, while its tendency to cause irregular motions, makes it little of an objection to any uniform and constant movement which shall appear to have been observed.

On exposing the stomachs of these animals immediately after death, contractions may be seen, varying considerably both in quantity and quality, or they may be altogether absent.

1. *In the empty stomach.*—If we examine an animal from whom all food has been withheld for some hours previously, and whose stomach is void of ingesta, that viscus is seen completely at rest, offering no movement whatever. And even after the interval of a minute or two, when the intestines are exhibiting very active vermicular contractions, the stomach presents a marked contrast, and preserves its quiescent state.

2. *In the stomach which contains food*, two chief varieties of peristalsis are observable; and they occur in such uniform coincidence with the different stages of digestion, and contents of the cavity, as to be attributable to these as their causes.

a. In the early stage of digestion.—In the carnivorous animals above mentioned, and especially in the destitute specimens which are generally obtained for such experiments, it is not unusual to find that solid food has been swallowed hastily in large lumps, after little or no division, still less mastication. In such cases the stomach is found crammed with hard masses of flesh; and owing to this unyielding condition of its contents, very little contraction of its parietes is visible. This state is best obviated by choosing an aliment the consistence of which shall not interfere with the movements, such as thick soup or other pultaceous food, and administering it in quantity sufficient for moderate, but not excessive, distension. If the animal be pithed about a quarter of an hour after, and immediately opened, the following movements will be seen going on :—

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* Hunterian Lectures, vol. ii. p. 226.

The most noticeable is a transverse constriction, which sets out from the cardiac extremity, and travels slowly towards the pylorus. This is comparatively feeble until it reaches the locality of the "transverse band," which is situated at about the junction of the pyloric two-fifths, and cardiac three-fifths; here it suddenly becomes much more distinct, and from hence it continues rapidly forwards, as a well-marked circular depression, until it reaches the pylorus. Having arrived thither, an interval of relaxation succeeds, which is followed by the recurrence of a similar contraction: as nearly as can be judged, the average period of relaxation is about a minute, and the contraction itself occupies nearly the same time.

Cotemporaneous with this contraction is a certain amount of longitudinal shortening of the organ.

At this period the pyloric orifice is always shut, but the cardiac much less efficiently so. The difference between the two closures is well shown by the effect of pressure; for the same amount which easily forces the contents of the stomach into the œsophagus and mouth, expels none into the duodenum.

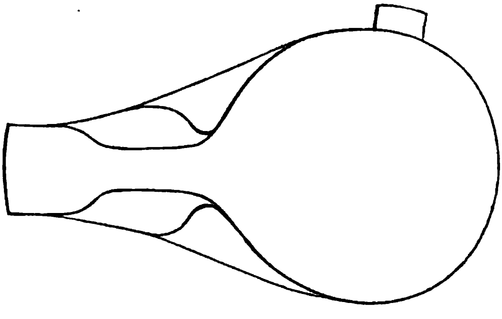
On laying open the organ, the ingesta are seen to be already somewhat altered: thus, where milk or soup have been given, flocculi of coagulated caseine or albumen are found floating in a dirty fluid.

b. At a later period of the digestive act, the movement differs considerably from the preceding description, though it still offers the same general appearances.

Above the situation of the transverse band, the large cardiac extremity, dilated by its contents, is more quiescent than in the earlier stage. Movements, indeed, do occur, which are similar to those previously described, but they are so slight as scarcely to allow of their nature or direction being defined.

The chief visible commencement of contraction is by a constriction which has exactly the same place as the sudden increase above mentioned (viz. almost midway between the orifices of the viscus), but is much deeper than it. After continuing a short time, it passes onwards to the pylorus as a circular concavity, which appears nearly to obliterate the tube in its course; and finally arriving at that valve, terminates by engaging the muscular ring which surrounds it. A slight relaxation follows closely on the heels of this peristalsis, and in a little while a more complete dilatation succeeds, but not exactly in the order in which the constriction had occurred, the central hourglass contraction being the last which altogether disappears, as it is also the first to return. The accompanying diagram contrasts together by its three outlines,—the commencement of contraction, its maximum, and that of the intervening dilatation.

Fig. 1.



While the contraction remains, the large size and fulness of the cardiac pouch, the well-marked circular depression, and the narrow pyloric tube, have often suggested to me the simile of a funnel, the expanded portion of which contained a quantity of fluid, which its tube (here a muscular one) was slowly draining off.

The contractions themselves are more rapid than in the earlier stage, but the intervals are rather longer—from 1 to 3 minutes; and a longitudinal shortening occurs, but it is even less prominent than before.

I have not been able to trace the movement clearly into the duodenum: indeed, the balance of evidence is somewhat in favour of an independency of movement in these two parts of the alimentary canal; since I have sometimes remarked that a contraction of the stomach began when a peristaltic movement already occupied the duodenum, at a distance of an inch or two from the pylorus, and that the latter both travelled at a much slower rate, and was repeated at much longer intervals, than the gastric constriction. But on this point it is necessary to speak with great hesitation, since there are many circumstances which tend to prevent an accurate observation of these intestinal movements, by simulating contractions, or distorting those which already exist. Some of these will be more fully pointed out in a succeeding part of this paper; but I may here mention the action of the atmosphere, and the dragging which is the physical result of contraction in the immediate neighbourhood.

In general terms, the differences in these two stages might be briefly stated as follows:—Soon after ingestion, the peristaltic movements are more general, and more uniformly diffused, engaging the whole of the organ: but even now with a manifest preponderance in the pyloric half, and the pylorus is firmly shut; while towards the termination of digestion, the cardiac extremity experiences less movement, but the peristalsis of the pyloric portion becomes much more rapid and vehement.

The pylorus doubtless opens slightly at the end of each contraction. This may be due either to a relaxation of its muscular fibres, or to their tension being physically overcome, and the fluid forced through by the constriction behind; but since these two periods appear to coincide in point of time, and the slight relaxation of the ring which immediately precedes its greatest constriction is necessarily cotemporaneous with the advance of the general contraction, it may be supposed that each of these actions takes a share in the expulsion of the chyme.

And looking at both the preceding varieties, it may be fairly laid down, that, although these movements vary greatly in quantity, and somewhat in quality, they are yet all capable of being expressed as peristaltic contractions; or, in other words, they all present, as their most important constituent, a superficial transverse indentation moving gradually forwards. Though I have looked carefully, I have never been able to identify any irregular motions which would affect this rule, far less any approach to an inverted peristalsis.

I cannot avoid mentioning in this place, that both the appearances beheld in the contracting stomach, and a consideration of the arrangement of the longitudinal fibres here and elsewhere, unite in allotting to them the subordinate function of serving merely to preserve the tension which is necessary to the proper physical action of the deeper layer. And their comparative uniformity in amount and thickness, in many animals in whom the transverse stratum is greatly increased in both these respects, seems to corroborate this view of their import.

3. *The movements of the food.*—Turning from these observations, which have had sole reference to the movements visible on the exterior of the digesting stomach, we next come to inquire into the motions which they impress on the food as their result.

A two fold gyratory movement has been already quoted as present in the contents of the fish's stomach in the earlier part of the digestive process; and this simultaneous passage of different portions in opposite directions, may be taken as the index of similar currents—one towards the cardia, one towards the pylorus.

The very careful and accurate experiments of Beaumont, will afford satisfactory evidence of something very similar to this. "The ordinary course and direction of the revolutions of the food are—first, after passing the œsophageal ring, from right to left, along the small arch; thence through the large curvature from left to right. The bolus as it enters the cardia turns to the left, passes the aperture, descends into the splenic extremity, and follows the great curvature towards the pyloric end. It then returns in the course of the smaller curvature, makes its appearance again at the aperture in its descent into the great curvature, to perform similar revolutions. These revolutions are completed in from one to three minutes. The bulb of the thermometer, which has been frequently introduced during chymification, invariably indicates the same movements. They are slower at first than after chymification has considerably advanced."*

Subsequently to this statement, he mentions that there is a perfect admixture of the whole ingesta; and that if the motions were simply revolutionary, the central portions would retain their situation, until the outer or chymified part had passed into the duodenum in successive parcels. The supplementary movement, by which rotation is converted into complete admixture, he considers to be a general trituration, which is partly the result of the same muscular contractions that cause the revolutions, partly produced by the respiratory muscles. But it is an obvious objection to any immediate alteration of the circular movement that the latter really obtains, and that it is of little use to grant the possibility of its conversion or modification into trituration by these means, when all his experiments, by substantiating the simple revolutionary character of the movement, prove that the change is *not* effected. But we shall presently endeavour to show that the circulation is of such a kind as necessarily implies mixture.

The opportunity so well used by Dr. Beaumont, is unique; and there are many difficulties which have hitherto been an obstacle to its artificial repetition in animals, so as to present any thing like trustworthy experience on the subject of these movements.

But of the accuracy of his experiments few, I conceive, would entertain any doubt; and if the preceding observations have been as correct, we are brought to this point in the investigation:—that the movements of the healthy stomach during chymification are of a peristaltic character, and that the direction of this peristalsis is uniformly forward; but that the currents in the fluid or semi-fluid ingesta, are of two kinds, and in two opposite directions,—one being forwards to the pylorus, one backwards to the cardia. The apparent inconsistency of these statements, or the incompatibility of one movement with two currents, has now to be explained.

The most simple and obvious course, and one which, to some extent, will reflect light upon the data, as well as on the result, is to imitate the natural condition, and to observe and compare the effects.

Thus taking a long membranous tube, preferably of considerable size and width,—such as the prepared weasands sold to the sausage makers,—and filling it with water to moderate but not extreme distension, by tying up both extremities we tolerably approach to the condition of the simple stomach of some animals.

The opposed and semi-flexed fore-finger and thumb will produce a transverse circular indentation, which, carried slowly forwards, will similarly come near to a peristaltic movement. By previously introducing any sufficiently visible and flexible object, of considerable length, little diameter, and a specific gravity somewhere about that of water, and by attaching this to the centre of one extremity, we shall obtain an index of the current developed in this part of the interior. Ordinary black tape fulfils these requirements.

And now, producing the transverse constriction in the manner just mentioned, and moving it rapidly and frequently from the one end towards the other, an elongation of the black string attached to the centre of that extremity to which the movement is constantly carried, indicates that a backward current of liquid in the axis of the tube is a coincident of the forward one which occupies its periphery: and like it is the direct result of the peristalsis.—Fig. 2, *a*.

A reversal of the direction of movement heaps up the previously elongated tape against the extremity from which it was firmly extended.—Fig. 2, *b*.

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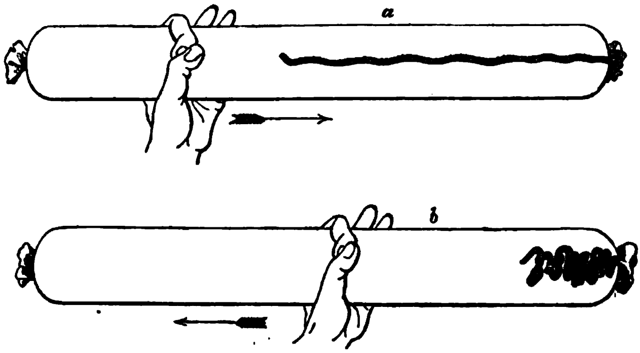
* Experimental Observations on the Gastric Juice. Combe's edition, page 101.

FIG. 2.



Prior to any experiment, a consideration of the mechanism of such an organ leads to the same conclusions.

The simplest form to which we could reduce it would be that of an inflexible hollow cylinder, in which the transverse indentation might be represented by a circular septum, perforated at its centre, and capable of free movement on the interior surface of the tube which it accurately fits. Let such a septum be moved in either direction, and it at once exerts a pressure on the body of liquid contained in the end towards which its motion sets. The pressure being equal in all directions, a portion of the fluid escapes backwards through its aperture, and this retrograde course is, *pro tanto*, a current, and one which will be continually lengthened by the advance of the septum along the remainder of the tube. The successive movement of a series of such septa would result in the establishment of two currents in the liquid—a peripheric of advance, and a centric of return.

The membranous and distensible nature of the tube actually made use of complicates the result only thus far: that at the commencement of the contractions, some distension of the distal extremity occurs.

The inconsistencies before alluded to, might therefore probably receive the following explanation:—

Transverse contractions, of uniform direction, occurring in a closed tube filled with liquid, and falling short of obliterating its calibre, necessarily imply two currents—a superficial or peripheric, in the direction of those contractions, and an axial or centric, having precisely the reverse course.

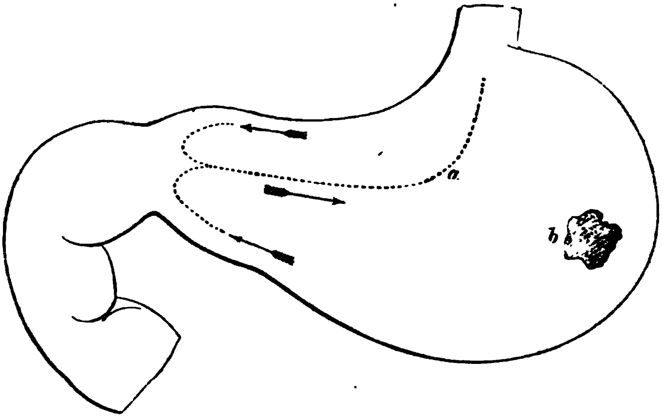
The conditions here specified evidently exist in the case of simple tubular stomachs; nor does the modification of shape which is present in the human and similar stomachs, affect their existence, since, so far as I have seen, the movements both in the cardiac pouch, and the more vigorously contracted pyloric extremity, are transverse to the axis of the organ, as defined by its cavity and apertures.

And applying the same theory as before, it seems highly probable that we have at once a complete elucidation of the revolutions of the food, which Dr. Beaumont witnessed, and a corroboration of the general accuracy of his observations. The return of the alimentary bolus, was, to all appearance, along the lesser curvature; and when we recollect the situation of the opening into the viscus, from which his observations were made, it is evident that a movement along the real axis of the organ would be so near to the curved border, and comparatively so far from the point of view, that he could scarcely have avoided imputing to it the course which he has done.

The gradual mixture of the food is also explained: for, on the principle laid down, it is obvious that the activity of the pylorus, by occluding this part of the canal, has the direct effect, not only of retarding the onward passage of the contents, but also of impressing on them such a circulatory movement as must quickly result in their perfect admixture; since every part of the stomach is occupied by one or other of the currents, the mutual interference of which at their borders would gradually cause an uniform diffusion of matters moving with them;

while the continuity of one current into the other at each extremity of the organ ensures an equal contact of every portion of the contents with its active mucous surface,—since the matters which occupy the axis during one moment are destined to move along its periphery during the next.*

FIG. 3.



a. Real axis of the tube.
b. Situation of the aperture in Dr. Beaumont's case.

And it might be natural to regard the stronger and thicker condition of the terminal half of the stomach as having some useful relation to this circulation, not only by its more active influence, but also, by its greater passive contractility, tending to prevent the dilatation to which this portion would otherwise be peculiarly liable, from the increase of action seen in this part of the organ.

In the present state of our knowledge, it would, I think, be too much to assume that these movements of its contents occur in the stomachs of all animals: indeed, in some of the carnivora (especially the fish-eaters) it is perhaps more probable that the ingestion of large immoveable masses of aliment is subsequently attended with so rapid and perfect a solution that the process is scarcely necessary or possible; but it is interesting to notice that even in these, as far as regards the organ itself, the conditions are certainly present: while we are also presented with a very simple means by which mastication of the food, where requisite, is, as it were, enormously exaggerated in its results,—since on this view, division, by implying circulation, also implies a further subdivision; and a coarse grinding in one stage of digestion is necessarily followed by a minute trituration in that which immediately succeeds it.

The anti-peristaltic action supposed to take a part in the healthy movements of the stomach is still more universally received as the immediate share which that organ takes in the production of vomiting; but, as in the previous case, experiment negatives the doctrine: in an animal killed during repeated and copious vomitings, the movement was seen to be distinctly forwards, having a considerable general resemblance to that of the earlier stage of digestion; but whether this movement be an invariable coincident of vomiting, a single observation would preclude one from judging.

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* Some of the currents seen in the Sertularian Polyp, by Mr. Lister, and described by him in the Philosophical Transactions for the year 1834, seem to approximate very closely to this general expression. Two currents were recognized in the tubular horny stem of the animal: they occupied different *halves* of its circumference, and proceeded in opposite directions. Two other currents engaged the communicating cavities of its contractile mouth and stomach. But these, although they also evinced a contrariety of direction, divided the tube in a very different manner,—that from the mouth to the stomach being situated in the periphery of the tube, while that from the stomach to the mouth occupied its axis. "The latter was suspended at the time of the close contraction of the stomach, and of the (general) discharge from the mouth into it."

Now, though transverse contractions of a marked character, and of duration equal to these currents, do not seem to have been observed in the soft contractile parietes of this part of the polyp, still it is impossible to avoid noticing their great similarity, both to those which probably obtain in the stomachs of higher animals, and to those seen in the rough model which I have suggested. And their contrast to those in the stem is perhaps significant of their different origin.

In concluding this part of the subject, some peculiar actions may be alluded to, as possibly connected with this state of the food—viz. the regurgitation of fluid which sometimes happens during the digestive process, and, with less likelihood, the easy kind of vomiting which is occasionally witnessed in very young children while feeding.

In the first of these cases the abdominal contractions and the closure of the glottis which occur in vomiting are absent, and the facility with which it happens seems to indicate that a full and contracting stomach, a patulous cardia, and possibly the period of expiration, are the only conditions of its occurrence. Conformably to this, it is found that a slight pressure on the replete organ will produce a similar regurgitation in the recently dead animal, and perhaps the axial current, which probably obtains in the living subject, may facilitate the upward movement. It would be difficult to conjecture whether the opening of the cardiac aperture be the result of an increase of pressure overcoming the resistance of the circular fibres which surround it, or whether these are merely relaxed: indeed, over-action of the longitudinal layer, where it expands in passing from the œsophagus to the stomach, would equally account for it.

[To be continued.]

CALOMEL AND OPIUM IN RHEUMATISM.

Several cases occurred, particularly during the winter session, which showed a controlling power in the mercurial impression. But a speedy and violent relapse in one on leaving the house in fine dry weather, tended to confirm a remark made by Dr. Gerhard, that rheumatic cases treated by mercury, are apt to be left in a state more susceptible to relapse, than after the use of other remedies. In some instances also it failed to relieve. The conclusion is, that this treatment should be avoided unless in syphilitic cases, or as a last resort where other remedies have not succeeded.—*American Journal of Medical Sciences.*

CASES OF CHOLERA

IN THE "JEAN AUGUSTINE," A FRENCH SLOOP IN THE THAMES; AT GRAVESEND; AND IN THE "DREADNOUGHT" HOSPITAL SHIP AT GREENWICH.

(Read before the President and Members of the Hunterian Society of London, on Wednesday, the 23d of May, 1849.)

By James O. M'William, M.D. F.R.S., R.N.

Surgeon to the Hon. the Board of Customs.

I trust you will do me the favour to give a place to the inclosed paper, which records the main facts of some cases of cholera, which seem to favour the opinion of that disease, being considered, at all events, occasionally possessed of the power of propagating itself by infectious communication. I may be allowed to add, that I have no particular view to support, and that truth is my only object.

The "Jean Augustine," a sloop laden with grain, having a crew of five men and one boy, sailed from Dunkirk, on Sunday, the 11th of March, 1849, and arrived in the Thames the following day. Shortly after the vessel left Dunkirk, (where, as I was informed by one of the crew, several people had at this time died of *maladies de ventre*), one man was attacked with spasm and other symptoms of cholera. On the 21st, this man was sent to the "Dreadnought" hospital ship at Greenwich; and on the same day Charles Hay, a tidewaiter, who only a short time before had been under treatment for ague, was received on board the "Jean Augustine," as that vessel passed Gravesend.

On the 22d, the "Jean Augustine" was lying off the Tower, and all on board, with the exception of the tidewaiter, were more or less complaining of bowel complaints. On the 23d, the tidewaiter had an uncomfortable feeling about the bowels, and the following day he left the vessel, and returned to Gravesend. In the afternoon "he came to his lodgings, apparently in good health, and ate heartily of fish with his tea at five. At nine P.M., he again partook of fish, and went to bed early: slept well, and appeared quite well the next morning. About noon he went to the Custom House (Gravesend), and "signed on duty."

"He went home at two P.M., and had his dinner, which mainly consisted of fish. At six P.M., he took his tea as usual, and complained of slight uneasiness about the stomach."* Between nine and ten o'clock in the evening, he went on board the "Princess Royal," a receiving vessel for tidewaiters, moored in midstream off Gravesend. Some time between ten and eleven o'clock, he had severe purging, which was rapidly followed by spasms and other unequivocal symptoms of cholera, and he died, in spite of every possible effort to save him, on the following morning (26th), between ten and eleven o'clock.

To return to the "Jean Augustine:" it has been already stated that on the 21st one man was put on board the Dreadnought. On the 27th, a boy was sent to the same hospital ship, on account of cholera; and on the 31st, the mate being attacked with the same disease, was also sent thither. My friend Mr Busk, the surgeon of the Dreadnought, informs me that the man first received from the "Jean Augustine," although said to have been suffering from cholera, manifested little or no sign of that disease while on board the hospital ship, and that he died on the 24th from inflammation of the lungs. The boy, however, had unmistakeable symptoms of cholera, under which he sank on the 31st of March. The mate had a diarrhœa of a choleraic character, and was convalescent on the 3d of April.

"An extra female nurse, who had been in close and constant attendance upon the boy, was attacked with diarrhœa on the night of the 30th March. She went home after the death of the boy on the 31st; the diarrhœa became worse, vomiting and severe cramps supervened, and she died, undoubtedly it would appear, of cholera, on the morning of the 5th April."†

This woman was engaged for the service of the "Dreadnought," on the 13th of March. There had been no cholera in that hospital ship since the 7th of February, nor had there been any case of cholera in the neighbourhood the woman came from. She appeared to be in good health before she was seized with her fatal illness; but before her engagement "she was understood to have been living in a state of great, although concealed, destitution."*

The facts, then, that we have to deal with, seem to be these:—

I. A young man, with a constitution somewhat damaged by ague, leaves Gravesend, which is free from cholera, and goes on board a vessel where cholera prevails. He remains in the vessel four days, returns to Gravesend, and within thirty six hours after his return he is seized with cholera, of which he dies in twelve hours.

II. A woman, apparently in good health, but whose resisting powers are probably impaired by destitution, leaves Greenwich, where there is no cholera, to go on board of a hospital ship which is also free from cholera. She continues well until some cases of cholera are brought to that ship. She attends upon the worst of those cases. She is also attacked with, and dies of cholera.

How are these attacks and deaths to be accounted for?

A surgeon, who was ordered by the General Board of Health to investigate the history of the illness in the "Jean Augustine," says, with reference to the attack of the tidewaiter: "A Custom House officer, in bad health, whose stamina is so broken as to render it likely the first attack of disease would carry him off, is exposed to the inclemency of the weather, lives in the miserable lugger, partakes of her fare, undergoes fatigue, anxiety, and no doubt alarm, at the state of those with whom he is appointed; his bowels become disordered, and while they are so, he imprudently overtasks them by eating heartily of cod-fish, not once, but on three different occasions, besides, in all probability, drinking beer, and winds up all by taking gruel and brandy."†

Notwithstanding the apparently circumstantial manner in which these statements are made, they are not quite correct. The tidewaiter himself informed me that the diet in the "Jean Augustine" was very good. When the tide-surveyor visited the vessel, he found the tidewaiter dining upon beef-steak. As to alarm, his conduct throughout showed that he was wholly devoid of such a feeling. When told to leave the vessel, he said: "I have no desire to leave the ship. I never felt better. I have no fear of cholera. Even were there any danger in remaining on board, why should I consult my own safety at the risk of another?" He was a moderate and most careful living man. As regards the beer which he "probably" drank, it surely was the duty of one who was employed to investigate facts, not to leave in doubt a matter so easily ascertained. The authority that was considered by the Inspector competent to inform him as to the alleged excess in cod-fish, was surely equally competent to satisfy him as to whether the man actually drank beer or not on the occasion in question.

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* Report of Mr. Russell, surgeon, &c., at Gravesend.

† Note from Mr. Busk.

* Ibid.

† Report of "General Board of Health Inspector," for a copy of which, furnished me by Mr. Bain, Assistant Secretary, I beg to tender my sincere thanks to the Board.

I am quite free to admit that the deceased was predisposed to cholera, or to the agency of any other morbific influence, by reason of his debility from previous ague. But the highest amount of predisposition will not be attended with cholera or any other specific disease, unless there be present a specific cause. Those, even, who deny most strenuously that cholera can, under any circumstances, be propagated from person to person, will hardly contend that it can be produced by the *usual* meteorological influences. Hence it becomes necessary to suppose the existence of a "certain" epidemical, choleraic, or some other peculiar constitution of the atmosphere (convenient expressions, intended to be of great import, but which, in reality mean nothing of which we have anything like precise notions), to account for the occurrence of this disorder. Those who are much acquainted with etiological inquiries, will, I believe, agree with me in thinking that exposure to irregular weather and the other alleged causes in the case of the tide-waiter, were far more likely to light up the action of the marsh poison already in his system, than to engender a new disease.

The General Board of Health Inspector, indeed, in another part of his Report, seems to have seen the necessity of looking for a cause beyond the usual meteorological phenomena. He says—"had he (the tide-waiter) escaped while the slightest tendency to cholera existed, it would have been almost miraculous. Cholera cases were occasionally occurring in St. George's in the East, to wit." Here the Inspector, I presume, infers that there was an epidemical or choleraic state of the atmosphere of London at the time of the arrival of the "Jean Augustine" in the river. Now if the intensity of this choleraic or epidemical constitution of atmosphere is to be estimated by the amount of cholera prevailing at any given time, it will be found, by a Return furnished me by the General Board of Health, that there were fewer cases during the week the deceased tide waiter was in the "Jean Augustine," than during the previous week, when he was boarded in the "Emil and Marie,"—a vessel, singularly enough, from the same place, of the same size, with a similar cargo, with the same number of hands, and with the same indifferent accommodation as the "Jean Augustine:" in fact, the circumstances in the two vessels were identical, with this indeed very notable exception—that in the "Jean Augustine" *there was cholera*, while in the "Emil and Marie" *there was no such disease*.

The following is the Return from the General Board of Health:—

	Attacks of Cholera.	Deaths.
1849.—March 11th to 17th (deceased tide-waiter boarded in the "Emil and Marie") . .	25	9
March 18th to 26th (deceased tide-waiter at this time in "Jean Augustine") . . .	19	6

And, as the state of the weather has been alluded to, I append the following from the Registrar-General's Report:—

	Average of barometric observations.	Average temperature.	Average dew point.
From March 11th to 17th	30·138	45·9	39·5
" 18th to 24th	29·963	40·0	34·9
	·175	5·9	4·6

There was a greater prevalence of easterly winds during the latter week than in the former. The electrometric indications, so far as they are recorded, were *positive*.

It is unnecessary to enter into any disquisition regarding the difference in the pressure, temperature, and humidity of the atmosphere during the two weeks. It is quite sufficient to show that there was a greater choleraic tendency (if such an argument is to be allowed) during the former week than during the latter week.

It is, therefore, to say the least, highly improbable that the state of the atmosphere was the cause of cholera in the case of the tide waiter; for he was quite as much, if not more, predisposed (so far as predisposition is acquired by debility) in the "Emil and Marie" as he was while in the "Jean Augustine." In the former vessel, where there was a greater general choleraic tendency than during the succeeding week, *but no cases of cholera on board*, he escaped. In the latter vessel, where there was a comparatively small general choleraic tendency, *but some cases of cholera on board*, he was attacked, and afterwards died.

If common atmospherical vicissitudes, a supposed abnormal constitution of the atmosphere, dietetic errors, &c., are inadequate to account for the illness and death of the tide-waiter, they must be regarded as still less applicable to the case of the nurse in the "Dreadnought." Granting to the utmost extent this woman's predisposition, from previous destitution, it is to be borne in mind that she had been a fortnight in the "Dreadnought" before the cholera cases were brought from the "Jean Augustine." If her predisposition is to be laid to the account of misery, that, as a cause, must have been diminishing every day, for in the hospital-ship she had the means of obtaining a regular and wholesome diet. There was no crowding, no deficient ventilation, in her case. She remained in perfectly good health until (and, it is to be marked, only until) she was placed in contact with persons labouring under cholera.

The subject hardly requires further discussion. I will only observe that the following conclusions seem to be warranted by the facts attending the two cases:—

I. That common atmospherical vicissitudes, the existence of a supposed abnormal condition of the atmosphere, deficient ventilation, errors in diet, and the other causes spoken of by the officer of the Board of Health, could not have led to the illness and death of the tide waiter.

a. Because common atmospherical changes will not of themselves produce cholera; the most ultra anti-contagionist being obliged to invoke an epidemical, choleraic, or some such supposed condition of the atmosphere to account for the occurrence of that disease.

b. Because, admitting the choleraic atmospheric theory, if the intensity of this atmospheric condition is to be judged of by the number of cholera cases occurring, it will be found to have been greater while the deceased tide-waiter was in the "Emil and Marie" than while he was in the "Jean Augustine," in both of which vessels the circumstances were similar, with the exception that in the former there was *no cholera*, and he remained well; while in the "Jean Augustine" *there were cholera* cases, and he got ill and died within a reasonable time after leaving the latter vessel.

c. Because mere errors in diet will not produce Asiatic cholera unless there be superadded the presence of the specific cause of that disease.

II. That it seems in the highest degree probable that the illness and death of the tide-waiter, and also of the nurse, were due to their being brought into contact with persons labouring under cholera.

Because, notwithstanding predisposition to disease, in the one case from damaged constitution, and in the other from concealed destitution, both individuals maintained their usual health in spite of atmospherical changes, the supposed existence of abnormal conditions of the atmosphere, exposure, confinement, and other alleged causes, until they were brought into proximity with cholera cases; and the result of this proximity was, in both instances, an attack of, and death from cholera within a short time afterwards.

With reference to the case of the

tide-waiter, there is yet another circumstance not unworthy of notice. The man in whose house he lived, and who "attended him personally in his last moments,"[*] had a severe attack of cholera on the 10th of April, from which, however, he recovered. It will be recollected that the tide-waiter died on the 26th of March. Thus, there was an interval of between fourteen and fifteen days between the death of the tide-waiter and the attack of this man. It does not appear that there was any other case of cholera at this time at Gravesend. I have no desire to strain this case to suit one view more than another, but its occurrence must be regarded at least as a curious historical fact as connected with that of the tide-waiter.

I am not aware of any precise information as to the extreme incubative period of cholera; but analogy derived from well-ascertained facts in other diseases (the Remittent of the Coast of Africa, for instance[†]) goes to show that fifteen days is not too long a period to shut out the possibility of some connection between the death of the tide-waiter and the attack of this person, with whom he lodged, and in whose arms he died.

[I would here fain be allowed to reurn my grateful thanks to Sir Thomas Fremantle, Bart., the Chairman of he Board of Customs, for the facilities he afforded me in obtaining the facts which I have endeavoured to record.]

14, Trinity Square, Tower Hill,
June 6th, 1849.

RAPID SUPERINDUCTION OF SLEEP UNDER THE INFLUENCE OF CHLOROFORM:

WITH REMARKS ON THE INFLUENCE OF IDIOSYNCRASY.

By T. P. Heslop, M.D Edin.
Resident Medical Officer to the Birmingham General Hospital.

Hannah Hyde, about 30 years of age, was admitted into the hospital under the care of Dr. G. F. Evans, labouring under laryngitis, the result of cold. From this she rapidly recovered, and was about to be discharged, when, on the 30th of May, she was seized with the usual symptoms attendant upon the passing of a gall stone. The pain was so violent that, by the direction of Dr. Evans, I administered chloroform. Thirty minims were accurately *measured*, and placed upon the sponge of a simple inhaler. The inhaler was scarcely adjusted when she was sound asleep: certainly no more than one second elapsed before complete sleep was induced, *altogether without prior excitement and muscular spasms.* There was no very obvious alteration of the circulation. The inhaler was instantly withdrawn, and in about a minute she awoke. She began to utter cries of pain again as before the chloroform was inhaled. The inhaler was again adjusted, *without any more chloroform being placed upon the sponge*, and she was again, in about two or three seconds, put into a profound sleep, without the slightest previous excitement. On this occasion the inhaler was kept on the mouth a longer time, and therefore she remained asleep several minutes, the pain being completely suspended. On re-awaking, and again complaining of pain, I put *ten* minims upon the sponge, which had been previously moved to and fro in a current of air. This appeared to produce only uneasy sensations; fifteen minims were added, when she began to exhibit the muscular spasms and excitement ordinarily attendant upon the exhibition of chloroform in the first stages of its action. This woman was in the recumbent posture during the whole time. As far as we know, the cerebral, respiratory, and circulatory systems are healthy. Surely this is powerful proof of the importance of attending upon *idiosyncrasy* in the administration of this remarkable agent; and as we have no means of discovering this in a particular patient *before* the chloroform is given, it must be concluded that it behoves us to commence, *as a rule*, with the *minimum dose.* Without affecting to throw a doubt upon the observations of those writers who have talked so much of certain diseased conditions of the cerebral and circulating systems as influencing the effects of this agent, I must state my earnest conviction, that attention to the idiosyncrasy of the patient is of infinitely greater importance than all of them put together. I feel appalled, when I think what *might* have been the consequences of putting a drachm upon the inhaler in this case, and allowing it to remain for several minutes upon the face; this is commonly done in the hurry of operation, without any one vouchsafing to look if the poor patient is breathing. No one is more deeply impressed than myself with the vast benefits derivable from chloroform in medical practice; but I am becoming more convinced that it is not the *majority* who are competent to administer it,—and that he who gives it safely enough, gives it quickly enough.

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[*] Mr. Russell's Report.

[†] Dr. Bryson's Climate and Diseases of the African Station.

General Hospital, Birmingham,
June 1849.

HÆMOPTYSIS SUDDENLY FATAL; ITS SOURCE NOT DISCOVERED.

[The following case, reported by Dr. Mackay to the Birmingham Pathological Society, is well calculated to show the fallacy of the popular notion in reference to the so called "bursting of a blood-vessel in the lungs."]

A married woman, aged 28, delicate-looking, and of spare figure, while suffering from cough and slight pain in the chest, was suddenly seized with hæmoptysis, which, from the quantity and rapidity of the discharge, alarmed her much. The violence of the attack continued for about an hour, during which she expectorated fully half a pint. The usual remedies, including venesection, were resorted to. For a few days the expectoration was tinged with blood, but her condition seemed to promise a gradual recovery, when, ten days from the first attack, and while lying quietly in bed, another attack of hæmoptysis came on, and she expired in two or three minutes, apparently from suffocation, after bringing up a considerable quantity of blood, which was discharged from the nose as well as the mouth.

The chest and abdomen were examined. In the former the apex of the left lung adhered to the costal pleura over a space as large as a shilling, and corresponding to this, a cavity large enough to hold a pigeon's egg was detected on incising the lung. The cavity was empty, and neither around it nor elsewhere was any tubercular matter found. The lower lobes of both lungs were gorged with blood, but nothing like apoplectic spots could be seen. Stomach full of blood; abdominal organs healthy. —*Prov. Med. Journ.*, April 1849.

MEDICAL GAZETTE.

FRIDAY, JUNE 15, 1849.

In an article lately published in this journal,* on the claims of Naval Medical Officers, we did not give a detailed answer to the objections with which Naval men in the House of Commons are apt to reply to all questions, in reference to the accommodation of Assistant Surgeons with cabins—namely want of room.

As a very absurd degree of importance has been attached to this mode of evading a just claim, we feel called upon to advert to the subject. We are plainly told by the representatives of the Admiralty, that Assistant-Surgeons in the Royal Navy cannot be accommodated with cabins, because there is no room to be found for the purpose on board any or every class of ships of war. Although it must be very well known to those Naval Officers who make this objection, that no difficulty is ever found in providing accommodation for an Admiral and his suite on board a frigate,—when, as it sometimes happens, a frigate bears an Admiral's flag,—or on board a ship of the line, it may still be useful to consider this objection in detail with reference to the case of Naval Assistant-Surgeons.

The space allotted for the accommodation of men and officers on board ships of war, is, from the present style of ship-building, much more ample than it was twenty years ago, whilst the number of cabins has not been increased, with the single exception of ships, in which the young gentlemen are not instructed by the chaplain, but by another individual. Within the same period it has become nearly the uniform practice in ships of the line for all the junior officers to mess together in the gun-room, instead of having as formerly one or two mess-berths in the cock-pit, which generally occupied space equal to that of about three small cabins. It is, therefore, obvious, that after accommodating Assistant-Surgeons with cabins in this class of ships, there would be no more space occupied by cabins, than there was during the last French war. Besides, in line-of-battle ships going into action, all the cabins on the gun-decks must be taken down; and as this in case of energency is done simultaneously, an additional cabin or two could cause little delay. In this class of ships it might be advisable to have one cabin in the sick-berth for an Assistant-Surgeon, who would thus always be at hand when required.

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* See page 812.

In frigates in which the young gentlemen are not instructed by the chaplain, there is necessarily a spare cabin; and where there is not, there would not be much difficulty in finding room for one, by encroaching to a slight extent on the gun-room, and curtailing the captain's steward's berth, which is little required on the lower deck.

In vessels commanded by commanders, where the complement comprises two medical officers, there must be the same room for an additional cabin now as there was during the late Administration, when there were three Lieutenants borne in these vessels, instead of two as at present.

It must be well known to all who are acquainted with the various classes of steam-vessels carrying two medical officers, how much superfluous room there is in the after-part of these vessels, and how easy it would be to erect an additional cabin in the few cases in which a spare one is not already to be found.

At present a certain number of vessels carry only one medical officer, but the precise number of men for which two are allowed has varied at different times, and at present it appears too small,—thus adding to the difficulty of finding suitable accommodation for the junior officer. There certainly appears no reason why two medical officers should be borne in vessels having a complement below 140, whilst transports, with 500 soldiers or convicts on board, are allowed to sail to the most distant parts of the world in the charge of one.

Irrespective of ship room, it appears injudicious on the part of the Admiralty to bring into the service chaplains who are not qualified as naval instructors. The chaplain is all the better for some regular employment on week days, and his office gives him a certain influence over the minds of the young gentlemen which a mere schoolmaster seldom or never possesses. If the two offices were always united in the same person, it is evident that a spare cabin would be obtained in every ship now carrying both a chaplain and a naval instructor.

The marine officers, again, who are inferior in rank to assistant-surgeons, are provided with cabins, and it would perhaps be considered a hardship to deprive those already in the service of privileges which they have heretofore enjoyed; but if, after what we have said, it is still seriously insisted on by the Admiralty that *no room* can be found for cabins for *assistant-surgeons*, we shall certainly advocate an appeal to a higher power to determine whether their inferiors are to be provided with accommodation which their superiors in rank are denied for want of room! Marine officers enter the service at the age of 17 or 18, to learn a profession at the expense of the country; the medical officer from 20 to 24, to practise a profession which he has already learned at his own expense; and surely the hardship is in the former case less felt, and in the latter less deserved. It would be at least desirable that those marine officers who hereafter enter the service should not be provided with cabins until they attain the rank which an assistant-surgeon holds. There would be nothing unfair in this arrangement.

These remarks will, we think, show that the plea of denying a separate cabin for want of room is a mere pretence. If the objection have any foundation, it should not operate against the assistant-surgeon, but against other marine officers, who enjoy the accommodation denied to him, although his inferiors in rank and education.

ANOMALOUS TUMOR IN THE ABDOMEN.

DR. JACKSON had seen a case lately that seemed to him particularly obscure. The patient was a young married woman, perfectly healthy in appearance, and had been aware of the existence of the disease for some months. All of the functions were most carefully investigated, but nothing could be discovered to explain the case. The tumor was situated in the right side of the abdomen, below the liver, and was of a regular, rounded or somewhat flattened form, about the size of an orange; solid to the feel, and slightly tender on pressure; it was about as moveable as a loose cartilage in the knee joint, disappearing entirely under the cartilages of the ribs when the patient reclined on her back, and falling out at once as she turned toward the left side. Some years ago Dr. Jackson met with a case that resembled the above in every particular, except that the general health was rather delicate; he followed it for some time, but no change ever occurred, or anything to explain its nature. One of his friends, to whom Dr. Jackson mentioned these two cases, had also seen one that was very similar. The patient is a lady, now about sixty-nine years of age, and subject to dyspepsia, but to no especial symptoms that can be referred to the tumor; this was first noticed in the year 1819, soon after a miscarriage at the seventh month, and it has continued to be felt from time to time since then, though for the last two years it has not been examined: it is not tender, and as to size, it may sometimes be perceived through the dress; but in regard to situation and mobility, it corresponds perfectly with the above cases.—*American Journal of Medical Sciences* January, 1849.

CLINICAL LECTURES
ON THE
PHYSICAL DIAGNOSIS OF PHTHISIS.

Delivered at the Hospital for Consumption and Diseases of the Chest.

BY RICHARD PAYNE COTTON, M.D.

Member of the Royal College of Physicians, London; Assistant-Physician to the Hospital.

LECTURE V.

The second stage—Signs indicating a general advance of the disease—Humid crackling, subcrepitant and mucous rhonchi—metallic mucous rhonchus—Combination of the first with the second stage.

AN acquaintance with the physical signs denoting the commencement of tubercular softening, is of great importance in relation to prognosis, because, under proper treatment and favourable circumstances, it may often happen that the first stage will extend over months or years, producing, perhaps, but little effect upon the health and enjoyment of the patient; but so soon as softening begins, the disease commonly progresses in an enormously increased ratio, and medical treatment becomes of diminished usefulness.

Although, about this time, the general symptoms will declare a considerable advance in the malady, there is nothing about them to point out, with any degree of certainty, even to the most practised observer, the real state of the lungs,—a circumstance showing at once the high value of physical examination.

Of the great majority of signs attending the second stage, little more will be requisite than a brief enumeration, since they consist merely of a greater and more unequivocal development of those already explained as belonging to an earlier period,—the result of an increased amount of tubercular deposit, which for the most part immediately precedes and accompanies the softening process. In the present lecture, therefore, I need only dwell upon those signs peculiar to the changed condition of the tubercular matter; and this will occupy but a short time, as they are fortunately equally simple as important.

A patient in the second stage will generally have the infra-clavicular region of one side visibly flattened, and less capable of expansion during ordinary and forced breathing, than the other. If the hand be applied to that part, both vocal and tussive fremitus will be found increased: and, on percussion, it will exhibit more distinctly than formerly, both dulness and resistance. The respiration will probably possess some of the morbid characters already described,—most frequently it is harsh or bronchial. The sounds of the heart are now often heard unnaturally on the diseased side; bronchophony and bronchial cough are much more developed; and the pulmonary crumpling, if it has existed, ceases to be heard. Such a catalogue of symptoms is given merely as an illustration of what may be expected, to a greater or less degree, in the majority of cases. Great variety will be observed in their association, and none of them can be regarded as any proof of the tubercles having softened. I sometimes meet with patients unquestionably in the second stage, exhibiting them so slightly, that were it not for other indications, they might hardly be suspected of being tubercular, or, at most, only in the commencement of the disease; whilst, on the other hand, it is as common to encounter others, in whom these deviations from health are sufficiently evident to lead to the suspicion of a much more advanced period. There is at this time a greater probability than formerly of the occurrence of the disease on both sides,—but this will rarely take place to an equal extent; if one side be previously unaffected, it will often now begin to exhibit symptoms of becoming tubercular.

It should always be recollected that there is no distinct line of separation between any of the stages of phthisis, the first gliding insensibly into the second, and the second into the last; that the difference between them is only one of degree, in all respects except the altered state of the tubercles; and that all signs not directly depending upon the latter, may consequently be met with, at any period of its duration.

Fortunately, there is nothing in the whole practice of auscultation more easy than to detect the very beginning of the softening process; the dry crackling rhonchus has simply to become humid, and the evidence is complete: a number of bubbling subcrepitant, or large mucous râles, have but to occupy the diseased part, and the transformation becomes more than probable.

A knowledge of the humid crackling rhonchus is therefore of the greatest importance, but is easily acquired, as it resembles the dry one, in all respects than its moistness, having the same characteristic click. They are found to pass gradually into each other, and every intervening state, from the perfect dryness of the one, to the well-marked humidity of the other, is constantly heard; so that it is sometimes difficult to determine to which the sound should be referred. It is impossible, however, to doubt its tubercular origin; and any deviation from positive dryness, justifies the conclusion that transformation has begun.

On the first appearance of the liquid rhonchi, they seldom exceed the others in frequency, but with the advance of the case, they become much more numerous, and, at the same time, more frequent with expiration,—more distinctly liquid and bubbling,—until at length they acquire a somewhat metallic quality, and pass into others distinctive of the last stage; these changes being as gradual as in the former case. Nothing is more variable than the period of their duration, but it may be said to be decidedly shorter than that of the dry variety. The mode of their production is not thoroughly understood, but for all practical purposes this is not important: it is sufficient to know that a humid crackling rhonchus, under all circumstances, tells of softening tubercle.

The value of this sound is well shown by the case now before us. Here is a patient whose chest is, to all appearance, scarcely changed from what may be taken as its healthy form; there is, however, a slight falling in, beneath the right clavicle, extending downwards for three inches, but it requires careful measuring to detect it; and on deep inspiration the movement of the whole right side is manifestly less than the other. Percussion announces slight hardness and resistance over the entire infra-clavicular region, but not to any great amount: as we descend, dulness is more evident, until at the base the sound is absolutely dull and flat. The respiration at the apex is weaker and harsher than on the opposite side; at the base it is entirely absent, unless on forced inspiration, when it is strongly bronchial. With such signs, there can be no doubt of the lung being greatly consolidated, but principally at its lower part, which would lead to the idea rather of pneumonia than phthisis. The general history points somewhat to the latter, but no definite conclusion can be formed without further evidence. At the very base posteriorly, there are two or three humid crackling rhonchi with every inspiration; and from these alone I have no hesitation in deciding the case to be one of phthisis in the second stage, showing itself principally in the lower lobe—a very unusual occurrence.*

When softening begins, and during the whole of the second stage, patients are more than ever liable to inflammation in the neighbouring parts of the lung. It is not often that the parenchyma itself is attacked, hence the fine crepitation of pneumonia is seldom heard; but, perhaps, at this period it may be expected more frequently than formerly. The pleura is occasionally the seat of secondary inflammation, and friction sounds are sometimes met with. The larger bronchi are somewhat more predisposed than formerly to inflammatory attacks; sonorous and sibilant rhonchi are consequently not uncommon attendants; but they merely announce the presence of bronchitis, and are usually heard over the whole chest. The smaller bronchi are very often implicated; and subcrepitant rhonchus is a very frequent accompaniment to the second stage.

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* Subsequent events have proved the correctness of this conclusion: the patient is now attending the hospital with undoubted signs of a large cavity, where the humid crackling rhonchus formerly existed.

This râle may be found in the apex only, or scattered throughout the whole of the diseased lung; in either case there can be little doubt of the presence of phthisis, the only difficulty lies in determining the stage. If the subcrepitant rhonchi be limited to the apex there is the greater probability of it being the second stage, because, unless in very acute cases, softening hardly ever goes on at the same time in different parts of the lung. I believe, however, that the character of the rhonchi will be sufficient generally to decide the question, as I have invariably found them, when resulting from the breaking up of tubercle, more bubbling and abundant, and of larger size, than when depending either upon an idiopathic inflammation, or one arising from tubercular irritation. But it may sometimes happen, from the varying size and loudness of the râles, that there is much uncertainty in any conclusion: and here we must be satisfied with naming the disease, without speculating as to its stage; or we may be guided by the extent of other physical signs, and the patient's general history. Should there be, as sometimes happens, a few crackling rhonchi intermixed, their dryness or otherwise would decide the matter.

Mucous rhonchus (of the larger kind, and not that in the minute tubes, which, as already stated, is scarcely separable from the subcrepitant) is not an unfrequent attendant upon the second stage, and is distinguished from the other two by its greater size, inferior frequency, and the idea of adhesiveness it communicates to the ear: it may occur either separately or in union with the others. When alone it would not justify the positive decision that tubercles were breaking up, as it might depend either upon an attack of bronchitis, or (if hæmoptysis had happened), the presence of blood in some of the larger bronchial tubes; but whenever it is strictly limited to the ordinary seat of tubercle, and all other symptoms indicate an advanced period of phthisis, it may be taken as presumptive evidence that softening has commenced.

Humid crackling—the large and moist subcrepitant—and the larger kind of mucous rhonchi, therefore, are signs announcing the second stage, but they differ in their value. The first is positive and unequivocal, never occurring under any other circumstance; the second and third are of less importance, since they require, like other indirect signs, considerations similar to those spoken of in a previous lecture—viz. their position and the co-existence of other signs, to determine their signification. Either of them may occur alone, or be so intermixed with each other, as to make their distinction impossible. With regard to their comparative frequency, the humid crackling by itself is the most common; next to this, is its combination with the sub-crepitant; but the latter is often found alone, or in conjunction with the mucous;—great variety in this respect constantly takes place.

There is a variety of mucous rhonchus with a clear metallic note, very liquid and bubbling, which, although difficult to describe, is so peculiar as to render its recognition, after having once been heard, a very easy matter. I have reason to believe that the humid crackling rhonchus generally passes into it, and that the others sometimes do the same: it pronounces with great certainty that the second stage is much advanced, and not far distant from the third. When once established, I have invariably found it permanent, until, by gradually increasing, it has become lost in rhonchi characterising the last stage, or, if the secretion has diminished, it has been succeeded by cavernous respiration. I have long regarded this sound as the sure forerunner of tuberculous excavations, and have too often been able to verify the accuracy of the conclusion.

The part where softening first shows itself, will generally be found to be that in which there were the earliest signs of crude tubercle; and, if the lung be now examined, those parts where there was formerly no appreciable deviation from the healthy conditions, will exhibit more or less evidence of incipient tuberculosis. It appears that there is at this time a tendency to the rapid deposition of tubercle,—the effect of some further reduction in the resisting powers of the patient, under which, those tubercles which are the oldest undergo transformation.

It often happens that we can observe upon the same patient the blending of the two stages, and, at the same time, the distinctive marks of each. There is, perhaps, a mucous rhonchus of the clear metallic variety at the very apex; surrounding and beneath it, a humid crackling, sub-crepitant, or mucous one; and still lower down, a few dry clicks. The percussion sound will probably show a corresponding gradation,—the dulness which was greatest at the summit decreasing gradually in descending, until it becomes lost in the clear sound over the yet unaffected basis. The respiration is perhaps equally changed, being bronchial where the sound was the dullest; harsh, weak, or jerking, lower down; until in the inferior parts it is found healthy; or, if altered, either weaker than on the opposite side, or slightly exaggerated, according to the state of the other lung.

Great variety in the grouping both of the direct and indirect signs of the second stage will of course be met with: fortunately, however, a few only are absolutely necessary to diagnosis; and, whilst the passage of the first into the second stage is of such importance in connection with prognosis, happily there is nothing more easy than to detect it by auscultation.

Having now included all that is important in this division of the subject, I hope at our next meeting, to complete the physical examination of phthisis, with a general description of the signs peculiar to the last stage.

Reviews.

Practical Pharmacy: the Arrangements, Apparatus, and Manipulations of the Pharmaceutical Shop and Laboratory. By Francis Mohr, Ph. D., Coblentz; and Theophilus Redwood, Prof. of Pharmacy, &c. Illustrated by four hundred Engravings on Wood. 8vo. pp. 390. London: Taylor and Walton. 1849.

This is not to be regarded as a direct translation of the German work of Dr. Mohr, but rather as a selection of those parts which are adapted for the use of English pharmaceutists, with such additions and alterations as appeared necessary to the English author, Mr. Redwood. These additions are so numerous that the work may be considered as essentially English in character.

In the publication of this volume, Mr. Redwood has struck out a new path, for we know of no work of the same description in the English language. It does not contain an account of pharmaceutical compounds, or of the mode in which they are prepared; but it directs the student to those general and special details, without which he cannot become a successful operator in the laboratory. The work to which it makes the nearest approach is Faraday's Chemical Manipulation; but this is specially adapted to the chemical student.

After giving a description of the general arrangements required for a well-ordered shop or dispensary, Mr. Redwood enters into the special details connected with steam apparatus, distillation, digestion, infusion, solution, vaporization, the preparation of extracts, tinctures, &c. We then have an account of the various furnace operations – distillation in glass or earthenware, sublimation, filtration, pulverization, and some of the minor operations connected with the compounding and dispensing of medicines. The range of subjects is therefore sufficiently extensive, and the mode in which the author has treated them will be rendered apparent by a few quotations.

The Rectification of Ether.—"In rectifying commercial ether in the usual way,—distilling it by the heat of a water-bath, with a retort and common condenser,—it is impossible to effect the complete separation of the spirit, much of which passes over towards the latter part of the process. It is only by frequently ascertaining the specific gravity of the distilled product that the right time for stopping the process can be determined, and even then the ether distilled over will contain some alcohol, while the alcohol which remains undistilled will retain some ether. It is true that by washing the ether with water, the whole of the alcohol may be removed from it, but this is an expensive method of effecting its purification, as the water thus used dissolves ether as well as alcohol, and thus renders another process of rectification necessary, unless it be thought less expensive to sacrifice the ether contained in the washings than to incur the trouble of recovering it.

"This subject occupied my attention some time ago, and I contrived an apparatus by the use of which the ether may be obtained in a state of purity from the unrectified liquor in one operation, while the spirit is, at the same time, left tolerably free from ether.

"The principle upon which the apparatus is constructed, I have designated by a term which may, perhaps, appear somewhat paradoxical, namely, *warm cooling*. The vapours arising from the impure ether are conducted through a condenser which is kept constantly at a temperature of 118° Fahr., by the application of warm water. In this vessel, the temperature being some degrees higher than the boiling point of ether (96°), yet much lower than that of alcohol (174°), the latter substance is condensed, while the former passes in the state of vapour into a second condenser, which is kept surrounded with cold water, and, when these can be obtained, with ice or snow." (p. 176-177.)

This process of separating ether from

alcohol, thus devised by Mr. Redwood, is highly creditable to his ingenuity. An engraving of the apparatus, with a full description of the method of using it, is given in the work.

In speaking of the pulverization of drugs (page 239), and the necessity for previously depriving them of their hygrometric water, Mr. Redwood does not appear to be aware of the mode of desiccation by heated currents of air, recently patented by Messrs. Davison and Symington, and which is so effectual that it will speedily dry white of egg without coagulating it, or the soft pulp of the potato without in any respect affecting its nutrient properties. This desiccating process is well deserving of the attention of pharmaceutists.

The *measurement of liquids* by dropping them from the mouth of the bottle containing them, is well known to be not only imperfect, but unsafe; as very different doses may be dispensed in the same number of drops, according to the size of the bottle. Mr. Redwood gives in the subjoined table the results obtained by Mr. Alsop. It shows the number of drops required to measure a fluid drachm, when dropped from a *large* or *small* bottle. A dose of prussic acid may thus become doubled by this rough mode of measurement.

	Large bottle. *Drops.*	Small bottle. *Drops.*
f℥j. Diluted sulphuric acid .	24	84
,, Scheele's hydrocyanic acid	35	70
,, Distilled water	31	54
,, Solution of ammonia . .	40	48
,, Tincture of opium . .	84	135
,, Rectified spirit. . . .	100	130
,, Tincture of muriate of iron	100	150"

(p. 268).

The following remarks, on *reading a prescription*, are judicious:—

"When a prescription is presented for preparation, the first thing to be done is, to read and to understand it. This is sometimes the most difficult part of the dispenser's duty. It requires the exercise of serious attention, quick perception, sound judgment, and prompt attention. The writing in prescriptions is often very bad, and the words are mostly abbreviated; moreover, the language in which prescriptions are written is, in the majority of cases, very imperfectly known to both the writer and the reader. There are, it is true, but a limited number of formal expressions which are commonly used for conveying the requisite instructions, and a knowledge of these is easily acquired; but the pharmaceutist will not be qualified for his duties as a dispenser if he possesses only a knowledge by rote of the expressions most frequently used in prescriptions. The prescription is intended as a medium of communication between the prescriber and the dispenser, and an acquaintance with the language in which it is written is quite as requisite to the latter as to the former.

"The dispenser has a two-fold difficulty to contend with: he must first decipher, and then translate the writing of the prescription. Moreover, he must do this not only correctly but promptly. If he stand poring over the prescription for too long a time, it may induce a suspicion on the part of the customer that either he is ignorant or the physician careless. Nothing should be done that could possibly tend to weaken the confidence of the patient in prescriber or dispenser.

"The prescription should be first looked over with the view of determining certain leading points, the knowledge of which will greatly facilitate the comprehension of minute details. The questions relating to these points will present themselves somewhat in the following order: Is the medicine intended for internal or external use?—Is it to be in the form of a mixture, powder, pill, ointment, or what other form?—What is the quantity ordered, and what the dose? These points being determined, for which a single glance of an experienced eye will suffice, a more careful examination of every word and symbol must follow, with the view of fixing definitely in the mind, what are the several ingredients ordered, and the directions with reference to them. Should a doubt arise in deciphering the names of any of the ingredients, the knowledge of the purpose, form, and method of administering the medicine, will aid in the decision of such points, by affording suggestions as to what would be suitable and what inappropriate. It is much better to meet any difficulty that might arise with the previous knowledge of every attainable fact that could assist the judgment, rather than to seek these aids after an erroneous idea has been impressed upon the mind. In deciphering the writing, it will often be found advantageous to compare the characters in a doubtful word with those most nearly resembling them in some part of the prescription which is intelligible. Should the difficulty still remain, the opinion of a second party, when attainable, should be sought; and in doing this, let not false pride prevent the inquiry being made from those who are capable of judging. Such inquiries, however, should not be made, if it can be avoided, in the presence of the customer.

"Sometimes a word may occur in a prescription which is quite legible, but the meaning of which is not understood, in which case reference should be made to a dictionary, or

other book, in which the terms used in prescriptions are explained; and in this case, again, it should be done without exciting the suspicion of the customer that any doubt exists as to the meaning of the prescription.

"If, after adopting all these means, it be still found impossible to read or to comprehend the instructions contained in the prescription, it will be the duty of the dispenser to ascertain who the prescriber is, and to apply to him for an explanation." (p. 355.)

Although the hieroglyphic system of writing prescriptions is going out of fashion, some physicians still prefer making unintelligible symbols: these are probably considered to give an air of mysticism and importance which can never be awarded to a prescription in which the precision and clearness of a banker's or lawyer's clerk are imitated. We have seen some prescriptions which were as easily legible when turned upside down, as when placed in what was supposed to be the right position. These, however, are now rarely met with. We may add that a good custom is rising up among medical men, *i. e.* of writing the *directions* in English. The reasons for this change are so obvious that we may expect it will be soon universally adopted. It guards the patient against any mistake on the part of the dispenser.

This work is most profusely illustrated with wood-engravings. Thus we here find delineated the mode of holding a glass-measure (p. 271), and the method of tying a knot (p. 297). We shall conclude our notice by remarking that Mr. Redwood has executed a difficult task with great ability; and we have no doubt that his work will soon find a place in every dispensary and pharmaceutical laboratory in the kingdom.

Lectures on the Causes and Treatment of Ulcers of the Lower Extremity. By George Critchett, Esq. F.R.C.S., Surgeon to the London Ophthalmic Hospital; Assistant-Surgeon to the London Hospital, &c. &c. 8vo. pp. 121. London: Churchill. 1849.

Mr. Critchett's object in the publication of these lectures is "to place the principle of mechanical support in the treatment of ulcers of the lower limbs on a correct and scientific basis." He points out the leading symptoms of each form of these ulcers, with their relation to a weak and retarded circulation, their usual concomitant condition. The chief point in the author's treatment is the "careful application of strapping to the entire limb, so as to form a completely adhesive encasement, accurately adapted to every part of the leg;" and in this respect he lays great stress upon the *tightness* with which the plaster is applied. We earnestly recommend this treatise to the study of surgeons: it is eminently practical, and contains the results of long and careful observation, without any taint of the empirical advocacy of one method of treatment in all cases. The author evidently views each case in relation to the general laws of disease, and suggests a mode of treatment in accordance with this view.

Portraits of Diseases of the Skin. By Erasmus Wilson, F.R.S. Fasc. 5. London: Churchill. 1849.

The part of this excellent serial work now before us, treats of Tuberculous Affections of the Derma; and the illustrations are—1. *Keloides*; 2. *Xeroderma Icthyoid s*; 3. *Lepr Vulgar.s*; and 4. *Psoriasis Vulgaris.* The special characters of these diseases are admirably delineated, and the two last illustrations have almost a living reality about them. As in the preceding parts, there is not only a good delineation of the skin-disease, but the accessories are well cared for. The drawing of the parts of the body is executed with anatomical correctness, and the colouring is natural. We can recommend this as a fit companion to the preceding parts.

The Calling of a Medical Student: Four Sermons preached in the Chapel of King's College, London. By Edward Hayes Plumptree, M.A., Chaplain and Divinity Lecturer. Pamphlet, pp. 61. London: J. W. Parker. 1849

Assuredly no person acquainted with the peculiar dangers which beset the student of medicine, both in the pursuit of his studies and in his hours of recreation, can lightly regard an earnest appeal to his judgment and best feelings, by a friend capable of advising on the most solemn considerations arising out of his calling. The author of these discourses is such a friend: his position and opportunities, added to his clerical character, divest his words of that suspicion of cant, which is too often attached to the introduction of religious topics on occasions strictly professional.

We would urge the attentive perusal of this little volume on all students of medicine: they will therein find the counsel and direction of which, as we have said, they stand so much in need. They will in these sermons find clearly and forcibly expressed the great importance of a due consideration of the value of time, and the obligations of duty. A modern writer has emphatically expressed this truth in these words—"The present moment is but the conflux of two eternities."* This is an awful reality which cannot be forgotten with impunity.

No calling offers greater occasions or more solemn responsibilities than the medical; and no higher character can be formed than that of the Christian physician: in every sense, the words of Goethe, "*ernst ist das Leben*," find their application here, where a whole life should be spent in study and in earnest unremitting *work*.

Our columns do not permit the further prosecution of the reflections to which the author's exhortations give rise. We commit their careful study to every thoughtful reader, and to every *true student* of medicine.

POISONING BY AN INFUSION OF POISON OAK—RHUS TOXICODENDRON.

Mr. Wilkes, a student of medicine from Tennessee, curious to test the truth of the statement made by some writers on Materia Medica, that the *Rhus toxicodendron* only produces its poisonous effects when applied to the skin, tried a few weeks since the experiment of drinking a strong decoction of the plant. He boiled the vine, with its leaves, and drank about a gill of the fluid, taking care, while preparing it, not to let the vine come in contact with his person. It was taken after supper, and next morning he found his face much swollen. The swelling continued to increase until his eyes were completely closed. He resorted at once to a wash, composed of perchloride of mercury gr. j., sal ammoniac gr. j., water ℥ij., which he had prepared in the event of his being poisoned. In about thirty-six hours the swelling and inflammation had disappeared. He slept nearly the whole time his eyes were closed, showing the narcotic action of the article.—*Phil. Med. Examiner*.

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* Thos. Carlyle.

Proceedings of Societies.

MEDICAL SOCIETY OF LONDON.

Monday, May 21st, 1849.

Mr. Hancock, President.

Lemon-juice in Rheumatism and Dysmenorrhœa—Colchicum in Tonsillitis and Erysipelas.

Mr. **Middleton** had lately tried, with much advantage, the use of lemon juice in acute rheumatism. These cases possessed the usual characteristics of the disease, and in some instances were secondary attacks. In some of the cases the first attack had lasted several weeks before the acute symptoms had been relieved. Under the influence of lemon juice, however, the pain was usually much mitigated, and in some instances removed in a few hours. He administered a purgative in the first instance, and then gave half an ounce of lemon-juice every four hours. As he had usually given alkalies with benefit in cases of a similar description, he was at a loss to understand how lemon-juice could act so beneficially.

Mr. **Headland** said that the profession were indebted to Dr. G. O. Rees for the use of this medicine in rheumatism. It had been employed by that physician and by Dr. Babington, extensively, in Guy's Hospital. The fact was, that it had been too much the fashion to connect the cause of rheumatism with cold. It was evident, from the success of the treatment of rheumatism by lemon-juice, that its origin was due to other causes. A great variety of remedies had been used in the cure of rheumatism, and he (Mr. Headland) believed that other agents acted as beneficially as lemon-juice when they exerted the same action on the blood. Reasoning on the effect of lemon-juice in cases of rheumatism, he had asked himself whether this medicine might not be employed with equal benefit in other diseases. He had found it of most essential service in cases of obstinate dysmenorrhœa. He related one case in which all other remedies had been ineffectual, and in which the continued use of this remedy effected a cure. It was remarkable that lemon-juice had not a tendency to act on the bowels, and where it had, or the constitution was in such a state as to allow it to be carried off by that channel, the medicine did not exert its special influence.

Dr. **Golding Bird** hoped the time was not far distant when we should treat disease according to its essential characters, rather than in reference to its name. Now, the cases mentioned by Mr. Middleton evidenced no paradox in regard to the treatment of rheumatism by alkalies and acid; for the lemon-juice and the carbonate of soda were essentially the same in their effects upon the system. He then proceeded at some length, which we regret our space does not allow us to report fully, to illustrate the effects of a morbid matter in the blood in the production of a train of symptoms which were attributed often to another cause; or rather, the condition of the blood was not looked upon as the real and essential link in the chain of causation. Yet this fact could be evidenced by an examination of the secretions, particularly the urine. He illustrated his views with much force and ingenuity by a case of ague and a case of rheumatism. In both these there was a *materies morbi* in the blood, which, as the disease receded, was relieved by being carried off by the kidneys, a larger and larger quantity of solids being found in the urine. This he had always found to be the case in Guy's Hospital, in which he had treated these diseases on the principle of removing the *materies morbi*. He believed that a similar condition of the blood to that which obtained in rheumatism was present in the patient affected with dysmenorrhœa mentioned by Mr. Headland. Now, in rheumatism, how were we to get rid of this morbid matter in the blood? Opium would remove it to some extent; colchicum would remove it. But it was taking a more common-sense view of the subject to employ some remedy which would eliminate the morbific matter from the circulation at once, by carrying it off by the urine. How, then, were we to effect this? Why, in acute rheumatism, by the administration of cream of tartar, citrate of potash, lemon-juice, or carbonate of soda. There was little difference between the action of these neutral salts; but lemon-juice, which was a super-citrate of potash, was more quickly absorbed into the blood, and consequently more active in effecting a cure. He had, however, in his own practice, been in the habit of employing the acetate of potash in these cases. This salt, with a mixture of sugar, water, and essence of lemon, acted with marvellous rapidity. In addition to this, given every four hours, he administered five grains of the soap pill, with opium, night and morning; for this not only relieved pain, but prevented the other remedy being carried off by the bowels. These, with the vapour-bath, constituted his treatment of rheumatism, and the result had been always successful. Soda and lemon-juice equally produced an alkaline condition of the blood, but he preferred the acetate of potash, as it was not liable to be neutralised by the presence of acid in the stomach. In respect to the treatment of ague, he never began at once with an anti-periodic. He always disgorged the liver by the employment of mild mercurials, and then some quinine. He mentioned one case, however, in which the quinine failed; he then gave the acetate of potash, and the case was cured. By these remedies we immediately altered the character of the blood, and cured the disease—a much more practical and philosophical mode of proceeding than that of treating disease according to name.

Dr. **Rowland** had lately treated tonsillitis with colchicum. He had cured every case so treated. Would the alkaline treatment be of effect in such instances of disease?

Dr. G. **Bird** said that this plan of treatment in tonsillitis had never struck him, but it was likely to do good; for guaiacum, so useful in rheumatism, had been used with great benefit in cases of sore throat.

Dr. **Rowland** said that the cases of sore throat which he had treated were of the ordinary kind. He had seen the colchicum do good in erysipelas; and, as the sore throat was also a diffused inflammation of the surface, he was induced to give it.

Mr. **Hancock** said that colchicum had been used, some years since, in the Westminster Hospital, in cases of erysipelas; but, in consequence of the debility it occasioned its use was discontinued.

Dr. **Theophilus Thompson** referred to the work a French author, named Gosa, who had enumerated a very large class of diseases, under the title rheumatoid, as having a common origin. He thought, that though this author had carried his views much too far, still there was a good deal of truth in the principle he had enunciated. With respect to the treatment of tonsillitis by colchicum he could say nothing, but certainly guaiacum was of much service in that disease. He was surprised to have heard from Dr. Golding Bird that so many remedies had the same effect, but more particularly with the statement, that when lemon-juice did good in rheumatism more solids would be found in the urine. Now, in contradiction to this, he might say, that in some cases of rheumatism in which he had administered lemon-juice, he had found the urine become clearer and clearer, and that instead of containing more solids it in reality contained less.

Dr. **Golding Bird** must enter his protest against the error into which Dr. Thompson had fallen in supposing that the colour or clearness of the urine had anything to do with the quantity of solids it contained. As he had repeatedly said, in print and by word of mouth, the only test to be relied upon was the specific gravity of the fluid, and to determine this he had given a very easy and ready form of proceeding.

WESTMINSTER MEDICAL SOCIETY.

At a late meeting of this Society, Dr. Cormack read a paper entitled

Puerperal Convulsions; their dependence on Toxæmia: explanation of their more common occurrence in Primipara.

Dr. Cormack detailed the history of three cases of puerperal convulsions which had occurred in his practice. The main object of his paper was to point out the connection between renal congestion and puerperal convulsions, which exists in a very great proportion of cases. He considered puerperal convulsions to be—though not always, yet generally—the toxicological results of non-elimination of the excretion of the blood; and that, in by far the greater number of cases, this non-elimination depends on renal congestion, caused by the pressure of the gravid uterus. Œdema and albuminuria are frequent concomitants or precursors of convulsions, as shown by Dr. Lever and by MM. Devilliers and Regnault. The gravid uterus, or any tumor pressing on the renal veins, must cause congestion of the kidneys, and consequent toxæmia; and this is the more injurious to the pregnant woman, as her blood requires an extra degree of depuration, both from excrementitious matter from the fœtus, and also from the elements of milk. Retention of these should, Dr. Cormack thought, be considered as the cause not only of convulsions, but also of various other distressing symptoms occurring during pregnancy. Uterine epilepsy probably often arises from toxæmia; and the suppression of the lochia may induce post-partum puerperal convulsions. When convulsions recur after delivery, we must suspect structural renal disease. The explanation of delivery generally arresting convulsions is not so much that uterine irritation is lessened, as that the hyperæmic state of the kidneys is relieved. The most common subjects of puerperal convulsions are strong, healthy young women, pregnant for the first time; and an examination of the cases recorded by authors proves this fact. In them, the abdominal walls are most unyielding, and unable to relax under the pressure of the gravid womb. Cases of puerperal convulsions in subsequent pregnancies might be either toxæmic or non-toxæmic; the toxæmic cases might be classed under the following heads:—1. Persons who had never gone to the full time. 2. Persons of extreme muscular development. 3. Persons suffering from structural disease or obstruction of the kidney. 4. Excessive volume of uterine contents, including twin cases, &c. Dr. Cormack was desirous of drawing attention to toxæmia as a cause of puerperal convulsions, and also of recognising non-toxæmic convulsions. He thought that Dr. Tyler Smith, who had treated this subject more philosophically than any preceding writer, had, while recognising toxæmia, attached too little importance to it. The following diagram shows the relation of toxæmia to puerperal convulsions:—

PREGNANCY
causes

Increased necessity for depuration of blood.

A tumor (gravid uterus), causing renal congestion, which causes

Non-elimination of poisonous excrement from blood,
Toxæmia,
which causes

Action on brain, spinal marrow, and medulla oblongata: hence result Convulsions.

Dr. Tyler Smith expressed his sense of the importance of the view taken by Dr. Cormack. He considered it would be difficult to estimate too highly the influence of impurity of the blood, as a direct irritant of the nervous centres in pregnancy. It was necessary to take a comprehensive view of the causes of blood-poisoning dependent on the pressure of the gravid uterus. There was the pressure on the intestinal canal, causing constipation; there was the pressure upon the emulgent veins, causing albuminuria, and the retention of urea in the blood; there was the pressure upon the hepatic vessels, which he had frequently observed to produce pink deposits in the urine; and lastly, there was deficient oxygenation of the blood from pressure upon the thoracic viscera. All these agencies interfered with the proper depuration of the blood in advanced pregnancy, and often produced distressing nervous symptoms. But it was curious to observe that during pregnancy certain vicarious or complementary secretions and excretions were set up, which tended to preserve the blood in a healthy state. There was the sickness and vomiting of pregnancy, the salivation which sometimes occurred, the increased action of the glands of the axillæ and of the skin generally, and the secretion of milk by the mammæ, which was sometimes profuse during the latter months, particularly in cases of albuminuria. All these actions tended to compensate, and were no doubt intended to compensate, for the effects of pressure upon other organs. The fœtus also must be considered as an excretion, so far as the mother is concerned; and a large quantity of matter, which would otherwise have to be eliminated as effete from the maternal blood, went to form the liquor amnii, the membranes, the bones of the fœtus, the meconium, fœtal urine, &c. These points required consideration in our estimate of the state of the blood in gestation. Still, there could be no doubt that in many cases an impure state of this fluid, a true toxæmia, did obtain, and affected the spinal centre, the organ of convulsions, in a centric or direct manner. He believed this to be a predisposing rather than an exciting cause. It was only when the toxæmia was very intense, as in poisoning by carbonic acid, that convulsions, depending solely upon the state of the blood, occurred. If it were otherwise, convulsions would often occur independently of the excitement of parturition. But we generally saw that convulsion was actually excited when the predisposition existed, by some manifest irritation acting in a reflex manner, such as the irritation of the parturient passages during labour, or irritation of the stomach, bladder, or intestines. He said this with the fullest recognition of the importance of Dr. Cormack's views, particularly in first pregnancies, but he wished to guard against their too exclusive application.

Correspondence.

AN ADDRESS TO THE FELLOWS OF THE COLLEGE OF SURGEONS ON THE ELECTION, ON JULY 5TH, OF MEMBERS OF COUNCIL—NECESSITY FOR CLOSELY EXAMINING THE CLAIMS OF CANDIDATES.

SIR,—In an excellent letter published in the MEDICAL GAZETTE of Jan. 12th, page 82, the writer calls the attention of the Fellows of the College of Surgeons to the important duty they have to perform in supporting the reputation and character of the College by a judicious selection of Members of Council, and expresses his opinion, in which many participate, "that several of the new Members of Council ought not, and if the old system had continued would not, have been elected on the Council."

The plan proposed by the writer, of a partial return to the old system, by the issue of a house list by the Council, is thought to be inconsistent with the charter, and therefore it rests with the *Fellows themselves*, on the approaching anniversary, to take care that English surgery is not lowered in the estimation of the world by a still further infusion of inferior men into that body; remembering that every year makes the duty of positively rejecting improper persons more imperative, since the number of elected members will this year amount to almost half the Council, and therefore an unfortunate selection cannot now be corrected till four years have passed.

To assist the electors in their judgment I have extracted from the Medical Directory the following account of the senior Fellows, whose names must be read over in succession, and out of whom three Members of Council have to be selected; and, with every desire to avoid personality, I will briefly allude to some important questions which must be determined conscientiously by each voter:—

1. Joseph Hodgson, Nov. 1811 (late of Birmingham). Gained the Jacksonian Prize for a "Treatise on the Arteries and Veins."

2. James Luke, Sept. 1822 (present Member of Council, retiring in rotation, but re-eligible), Surgeon to London Hospital; Surgeon to St. Luke's Hospital; Consulting Surgeon to the Marine Society; Lecturer on Surgery at the London Hospital School of Medicine. Contributions—A paper in the MEDICAL GAZETTE "On a Method of Applying Ligature to Nævus;" a paper in Transactions of the Medico-Chirurgical Society "On Petit's Operation for Hernia."

3. Thomas Wormald, March 1824, Assistant-Surgeon to St. Bartholomew's Hospital; Surgeon to the Foundling Hospital.

4. George Pilcher, April 1824, late Surgeon to Surrey Dispensary; Lecturer on Surgery. Author of a "Treatise on the Structure and Pathology of the Ear," and of contributions to various periodicals.

5. John Bishop, May 1824, Surgeon to Northern Dispensary. Author of articles "Larynx" and "Motion," Cyclopædia of Anatomy and Physiology.

6. John George Perry, June 1824, Inspector of Prisons.

7. George Simpson, August 1824, Registrar of Deaths, North District, St. Giles's-in-the-Fields. Author of Simpson's Anatomy as applicable to the Fine Arts; inventor of Papier Maché Anatomical Figures for the Education of the Native Surgeons of India.

8. Gilbert W. Mackmurdo, Sept. 1824, Surgeon to St. Thomas's Hospital; to the Royal Ophthalmic Hospital; Lecturer on Ophthalmic Surgery.

9. Francis Kiernan, Jan. 1823, Member of the Senate and Examiner in Anatomy, University of London. Author of "Anatomical Researches into the Structure of the Liver."

10. John Malyn, May 1826, Consulting Surgeon to Western Dispensary. Author of articles "Cranium," in Cyclopædia of Anatomy, and "Anus," in Cyclopædia of Surgery.

11. George Gulliver, June 1826, Surgeon in the Blues. Author of "Notes and Appendix to the English Edition of Gerber's Anatomy;" "Introduction and Notes to Hewson's Works;" Sydenham Society, &c. &c. &c.

12. Edward William Tuson, June 1826, (*erroneously called*) Surgeon to Middlesex Hospital, and Lecturer on Anatomy, Little Windmill Street.

13. Richard Owen, August 1826. Hunterian Professor, and Curator of Museum, Royal College of Surgeons of England.

14. William Coulson, Sept. 1826, Surgeon to Magdalen Hospital; Consulting Surgeon of London Lying-in Hospital. Author of "Deformities of Chest and Spine;" "Affections of Joints in Puerperal State;" "Diseases of the Bladder and Prostate Gland," &c. &c.

15. John Dalrymple, Feb. 1827, Surgeon to Royal Ophthalmic Hospital, and Consulting Surgeon to North London Infirmary for Diseases of the Eye. Author of "Anatomy of the Human Eye."

16. Richard Partridge, April 1827, Surgeon to King's College Hospital; Professor of Anatomy.

17. John Hilton, May 1827, Assistant-Surgeon, and Lecturer on Anatomy and Pathology, Guy's Hospital. Contributor of Papers to Guy's Hospital Reports.

1st. The Fellows must *themselves* decide whether each Fellow in succession is *legally eligible;* for no power is given to the Council, or President, or Secretary, to decide with legal authority against any certificate given in by *three* Fellows, that "on their personal knowledge A. B. does not practise, and has not at any time during the five preceding years, practised midwifery or pharmacy, and that he then resides, and *boná fide* practises his profession of a surgeon within five miles, by highway or road, from the General Post-Office in St. Martin's-le-Grand, and that he is a fit and proper person to be a Member of Council of the Royal College of Surgeons of England." Such certificate is directed by the charter to be final and conclusive as to these points.

For example, few of the Fellows were acquainted, before the day of election, with the change of residence of a gentleman now on the Council, by which he made himself eligible only a few weeks before the time for his name to be read over; and in the same manner many Fellows are probably ignorant that Mr. Hodgson of Birmingham, passed over on former occasions, has now for the first time become eligible, by residing and practising as a surgeon within the prescribed distance.

Should it happen that on the present occasion a certificate is given in favour of Mr. J. G. Perry, the Fellows will have to consider whether his duties as Inspector of Prisons, which frequently call him out of town, are, or are not, such as to allow him to be called *resident* within *the five miles*, and *boná fide practising as a surgeon?*

They will also have to determine whether the duties of Mr. Gulliver, of the Horse Guards, resident two years, and non-resident in a third, and liable at any moment to be sent wherever the 'Commander-in-Chief pleases, are, or are not, such as to to render him legally eligible, or non-eligible?

Does Professor Owen practise *boná fide* as a surgeon, so as to make him eligible to the Council?

It is obviously the duty of the Fellows to make inquiries in these and similar cases *before* the election, whether their turn comes in the present or in a future year, lest even the celebrity of the persons themselves should make the voters guilty of illegality, in the spirit, if not in the very words of the Charter; expressing no opinion on these several points, they are necessarily alluded to as matters of conversation, and likely to give rise to difference of opinion.

2. This year affords the first opportunity to the Fellows of determining on the election of a Fellow, passed by on every former occasion, but now eligible, for the first time, from change of residence. It is a privilege which is not likely to be exercised, except when a provincial surgeon has acquired a high reputation, which makes him a desirable addition to the ruling body,—nor should even this claim be allowed, if age or infirmity are likely to prevent the individual from actively performing the duties of a Councillor. It is evident, also, that it is a privilege which will hereafter be sometimes attended with considerable inconvenience, since a surgeon who thus becomes eligible many years after his proper standing, will generally be senior to the three Councillors, who retire in rotation: his name must therefore be first read at the meeting, but he cannot be elected without excluding the junior, perhaps a very desirable man, who has been several years on the Council. On the present occasion, however, two actual vacancies amongst the life-members prevent this awkward, but sometimes inevitable competition; for a senior Fellow cannot well hold back, since this would oblige him to

seek for a special certificate, signed by six Fellows, for the next election.

3. On this occasion only one Councillor retires in rotation, and the electors are called on as usual to determine whether his character and conduct since the former election make him as eligible as they then thought him.

Avoiding every personal comment on the two senior Fellows,—Mr. Hodgson and Mr. Luke,—I pass on to the next Fellows on the list, who do not fall under these three considerations.

4. There appear the names of some gentlemen, who are attached officially to public hospitals or dispensaries, as surgeons or teachers, and others who are only private practitioners. Some, whose writings are before the profession, while others have written nothing by which their acquirements can be estimated.

No man should be elected merely because he is a hospital surgeon,—nor should any one be excluded solely because he has not held any public appointment of the kind. If a man who has possessed the great advantage of hospital practice has neglected so great an opportunity of making a character for himself as surgeon and a teacher, it is rather a reason why he should be blackballed; and, on the other hand, if a man, destitute of this inestimable advantage, has yet acquired a fair reputation as a surgeon and a man of science, he is the more deserving of the distinction which election into the Council gives him. And a reference to the names of the present members of the Council will show that there is none of that unworthy jealousy, sometimes, but very erroneously, alleged to exist, against any candidate, solely on the ground that he is not attached to a hospital.

Again, the absence of any published work, or surgical writings, may afford some presumptive evidence of a candidate's idleness, and consequent unfitness for a seat in the Council; but yet a man who has never come forward as a writer may have proved himself an excellent practical surgeon, or lecturer, or instructor; and, on the other hand, one who has written a great deal may be wholly unworthy of election. Is there any intrinsic merit in the literary production, or are they written as a mere passport to practice, and a vehicle for constant advertisement of the writer in the newspapers and journals? It would not be difficult to name some whose surgical productions are thus before the public every week, but are never opened in the studies of their professional brethren; and the Fellows will do well to mark their sense of reprobation of such puffing practices in the negative side of the ballot box.

5. The principle which, under the Charter, excludes from the Council those who practise Midwifery and Pharmacy, would in spirit, if not in letter, render ineligible those who confine themselves exclusively to one branch of Surgery; but it is probable that exceptions may occasionally be admitted where general surgical acquirements and scientific attainments have elevated any one to a high station in the profession, though certainly much caution must be necessary under such circumstances, that the College suffer no loss of reputation by the admission of any one whose eminence is solely derived from his knowledge of any one organ of the body. The Fellows must therefore put this question to themselves in the cases of Mr. Pilcher and Mr. Dalrymple, and decide according to their sense of right.

6. Personal canvassing by candidates, beyond the necessary provision of three names for the required certificate, should be considered unworthy of the Fellows, and probably will never be resorted to by any one who is not conscious of the doubtful nature of his claims to the good opinion of the electors, and would, no doubt, in some instances, procure the exclusion of a candidate who might otherwise have been elected.

I trust, in conclusion, that the same anxiety to uphold the honour of the College of Surgeons which I feel myself will actuate the great body of the Fellows, and that they will not be induced by voluntary ignorance to give a white ball to any one whom a little inquiry might show to be undeserving of the honour, nor to let good-nature overcome the sense of duty which should induce them to place a black ball against every improper candidate. No eminent person can ever fail to be elected; but abstaining from voting against a candidate of doubtful merit as a gentleman and a surgeon, is an equally fatal dereliction of duty to the College.

I have the honour to be, sir,

Your obedient servant,

F.R.C.S.E.

ON HYDROPHOBIA IN MALTA.

SIR,—The interesting cases of Hydrophobia related in your last number* by Dr. Dawson, remind me of a promise I made to you and your readers, when reporting the first case of hydrophobia in the human subject observed in Malta, to state if I should discover how the disease had been imported into the island. I now wish to inform you that, by the assistance of Dr. Adami, of Sengler, a most intelligent Maltese physician, and of the inspector of police in the Burmole district, I was enabled to demonstrate that the first dog known to have been subject to hydrophobia in Malta for many years, I believe since 1814, had arrived in an English vessel about Christmas time 1846, and had been seen in company with a dog which died of hydrophobia, and which had bitten the cat whose bite caused the disease in my patient. I should state that the first dog also died. From this source Dr. Dawson's two cases, and two others, which all proved fatal, sprang. I believe I was the first to employ an anæsthetic agent in this disease; and I have just seen in an American journal that at length a case in which hydrophobia has actually commenced, has been for the *first time* successfully treated by chloroform.* The report of my case will be found in your journal for July 16, 1847.—I am, sir,

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* June 1st, 1849.

Your humble servant,
T. SPENCER WELLS, R.N. F.R.C.S.

24, Belgrave Square,
June 6, 1849.

ON THE USE OF GLYCERINE IN THE TREATMENT OF DEAFNESS.

SIR,—I have read in your journal of last Saturday, a letter signed "*J. A. Turnbull.*" In that letter the writer refers to the use of "Glycerine" in the treatment of affections of the ear. I therefore think it right to state, that "Glycerine," as a remedy for deafness, has been used by me upwards of twelve months. I obtained the preparation from Mr. Lloyd Bullock, of Conduit Street, who was so obliging as to manufacture it for me. Many months since, I stated that I successfully employed glycerine, to Mr. Erasmus Wilson, Mr. Gay, Mr. Needon Cooke, and others; amongst the latter was Dr. Turnbull himself, on whose letter, therefore, any comment is unnecessary.

As I have found glycerine to be a valuable remedy in the treatment of many cases of deafness, and as I have employed it on a great number of occasions, I thought it to be a duty, about a month since, to send a paper, for publication in the Lancet, which contained reports of some of the cases which I had treated with glycerine, and also a description of the chemical composition of that preparation.

I shall feel much pleasure in sending to you a copy of that paper for publication in the GAZETTE.—I have the honour to remain, sir, your most obedient servant,

THOMAS H. WAKLEY.

Guildford Street,
June 6, 1849.

ON A CASE OF SUPPOSED CONGENITAL MALFORMATION OF THE SHOULDER-JOINT.

SIR,—I have but very lately seen, in Dr. Ranking's Retrospect, an abstract of a paper in the Dublin Medical Press, July 5, 1848, by Dr. O'Brien Bellingham, describing a before "undescribed *congenital* malformation of the shoulder-joint," which its experienced and well-informed author evidently supposes, as the title of his paper implies, to have existed from birth The person in whom it occurred was a man of 58, whose left arm was well developed and muscular, while his right was comparatively weak and unmuscular, the shoulder appearing relaxed and dislocated. He stated that this condition of the right arm had existed as long as he could remember; that he had never, till within two or three years, had it injured; and that though incapable of raising the arm to a right angle with his body, he could support heavy weights in the hand of the affected arm; that is, the flexors and supinators of the fore-arm had suffered no lesion of innervation.

Dr. Bellingham supposes this condition to have been owing to congenital malformation of the capsular ligament, the lower portion of which was so firm and so much shortened as to prevent the action of the deltoid and associated muscles of the scapula, so that these became atrophied from want of exercise, a condition which was shared, in some degree, by all the other muscles of the arm, and the bones to which they were attached, in consequence of this paralysis of action at the shoulder-joint.

I would propose, with due respect to Dr. Bellingham, a different explanation, suggested by a case of paralysis which has been under my notice for nearly two years past.

There is a rare form of infantile paralysis, implicating the deltoid and sterno mastoid muscles, only one instance of which is related in Underwood's Diseases of Children, and another, as mentioned above, has fallen under my own observation. In this instance, the paralysis came on suddenly in the twelfth or thirteenth month, after exposure to cold, as is usual in other forms of this mysterious class of nervous disease, and affected the sterno-cleido mastoid muscles, inducing wry-neck, and paralysis of motion at the shoulder-joint of the right side. Counter-irritation in a few days removed the cervical distortion, not a trace of which remained, but all measures, including a careful application of the electro-galvanic stimulus, have failed to restore the deltoid muscle to its proper state of innervation. The shoulder looks as if luxated, though there is no displacement of the head of the bone, and the humerus can only be raised slightly and obliquely by the action of the latissimus dorsi. The muscles of the fore-arm are perfectly free from paralysis, but as there is less inducement to use this arm, the fore-arm is smaller than that of the left or unaffected member. In other respects the child is very healthy and active. The paralysis has lasted about eighteen months, and I fear will be permanent. No paralysis of sensation existed at any time.

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* Mr. Wells probably refers to the case of Dr. Smiley reported in our last volume, page 643, Oct. 13, 1848.

I would suggest that such was the origin of the "malformation" related by Dr. Bellingham, and that the thickening of the capsular ligament, which was hypertrophied throughout, was to supply that support to the weight of the humerus which had been lost by the paralysis of the deltoid, and by the subsequent relaxation of the long head of the biceps flexor cubiti.

I should not have troubled you with this explanation, but that Dr. Bellingham considers it a non-descript form of congenital malformation, and as such it might come to be recorded in future works on the joints, unless another and perhaps more probable explanation of the anatomical appearances recorded by him in this case could be given.

Dr. Bellingham mentions that the man's arm could be raised passively, nearly to a right angle with the body: if no mechanical obstacle existed to this amount of elevation, it is very unlikely that the deltoid muscle would have been found so extremely atrophied as it was, if no paralysis had existed.—I am, sir, yours, &c.

CHARLES PRENTICE.

Cheltenham, June 5, 1849.

THE PATHOLOGY OF CHOLERA.

SIR,—At a moment like the present, any suggestion calculated to throw light upon the pathology of cholera being scarcely other than a topic of universal importance, cannot be devoid of interest to your readers.

That the *remote* cause of cholera is in some way connected with an abnormal condition of terrestrial electricity, is the opinion (arrived at from observed perturbations in the magnetic needle, &c.) entertained by several authorities of considerable weight.

That the *proximate* cause of the phenomena developed during the cholera is a *suspension of the function* of the ganglionic system of nerves (or a defective or abnormal discharge of that function), is the prevailing impression with those who have reflected most upon the nature of that disease.

To connect the *remote* with the *proximate* cause of a disease, must be a consideration of moment to the recognition of its true pathology.

Some time back I attempted to establish the two following propositions (arrived at altogether unconnectedly with reflections upon the pathology of cholera)—namely,

First, that hæmatosin is *the specific stimulus of the ganglionic nerves*, independently of which it is impossible that those nerves could discharge their physiological function; and

Secondly, that hæmatosin is brought into contact with the peripheral extremities of the ganglionic nerves through the agency of the magnetic properties of the iron, which forms an essential component of that substance.

Your obedient servant,
HENRY FREKE.

Dublin, 28 Holles Street,
June, 1849.

Medical Intelligence.

GREAT MORTALITY PRODUCED BY THE CHOLERA IN PARIS.

THE increased mortality from this disease is exciting the greatest apprehensions throughout all classes in Paris. The French medical journals congratulate themselves on the fact that the mortality, which was 75 per cent. at the commencement, is now reduced to 50 per cent.!

By accounts dated Paris, June 11th, we learn the following facts respecting the progress of the disease in the hospitals:—

	Admissions.	Deaths.
June 8 . . .	410	178
,, 9 . . .	377	148
,, 10 . . .	335	163

Up to this date there had been, in the hospitals only, 10,162 cases, and 4915 deaths.

In the city itself the mortality has been equally great. The deaths in only *five days*—*i. e.* from the 5th to the 9th June, were 2029, including many persons in the higher ranks of life! It is quite certain that contagion has had great influence in the alarming diffusion of this disease, especially as many Sisters of Charity have fallen victims to it.

The disease has probably not yet reached its height, for as many have died in the first week of June as in the whole month of April.

Since the 7th March—*i. e.* in the short period of three months—the cholera has destroyed in Paris 8476 persons!

OUTBREAK OF THE CHOLERA IN AN EMIGRANT SHIP ON THE ENGLISH COAST.

IN consequence of a communication received last week from Port-Admiral Sir William Hall Gage to Captain Toup Nicholas, Captain Superintendent Royal Navy Hospital, Dr. Allen was despatched, shortly after midnight, on board the American Eagle, and this morning presented the following report:

"Royal Naval Hospital,
"Plymouth, June 6.

"Sir,—In compliance with your directions of 11 P.M. of yesterday's date, to proceed on board of an emigrant ship under American colours in the Sound, with cholera on board, to inquire into the causes of the disease, and to suggest the best steps to be adopted to arrest its progress, I have the honour to inform you that I immediately went on board of the American Eagle, bound to New York from London, with about 300 persons, including the crew, and find that she sailed from London on the 31st ult., touched at Portsmouth, and sailed thence on the 3d instant, and arrived here yesterday afternoon; during which period 17 persons have been attacked with Asiatic cholera, of whom seven have died; one after an illness of 24 hours, and six after 12 hours' illness. I visited those at present suffering, and found four other extreme cases and several others in the incipient stage of the disease, and I am informed by the medical man on board that the majority of the passengers are affected with diarrhœa—under such circumstances a certain precursor of cholera. The disease seems chiefly, if not solely, confined to the steerage passengers and crew.

"As to the cause of the disease in this particular instance I can say little, the ship being large, commodious, and fitted with scuttles, the value of which I have no doubt has been much diminished by the want of systematic cleanliness and ventilation inseparable from an emigrant ship. Nor can I suggest any means of arresting the progress of the disease by any separation of the diseased from the healthy in the ship herself, as I am of opinion that it can only be effectually accomplished by the appropriation of a hulk as a temporary hospital, where such auxiliary means should be afforded as might from time to time suggest themselves; which arrangement would also afford the best opportunity of depurating the ship, if necessary, and would contribute greatly to remove the panic under which the unaffected are at present labouring.

"I have the honour to be, sir,
"Your obedient humble servant,
"A. S. Allen, M.D., Surgeon.

"Captain J. Toup Nicolas, C. B.
Captain Superintendent, &c."

On receipt of the above document by the authorities, orders were immediately issued to prepare the Tyne hulk, 22, for the reception of the emigrants from the packet, and the hulk is to be towed from Hamoaze into the Sound this afternoon, when the steerage passengers will be forthwith placed on board, and the American Eagle will be cleansed and fumigated. Most of the cabin and some of the better class of steerage passengers have landed, and have taken lodgings in Plymouth, much to the alarm of some of its inhabitants. Up to 4 P.M. no deaths have been reported ashore, except those already noted as having occurred since her departure from Portsmouth on Sunday.

ETHER IGNITED ON ICE BY ELECTRICITY.

Among the brilliant experiments performed at the Royal Institution, on Saturday last, by Professor Faraday, was one which is remarkable both for its novelty and interest. To ignite ether by the aid of a piece of ice, would appear to be one of the marvels of experimental physics; yet this was readily accomplished under the following circumstances:—

A block of ice, with its surface hollowed out so as to allow some ether to be poured upon it, was placed on an insulated stand, connected with a good electrical machine. The ice was therefore made part of the conducting circuit. Two or three turns of the handle of the machine led to the evolution of a sufficient quantity of electricity. On bringing a pointed piece of ice over the stratum of ether, when within about an inch of the surface the spark traversed the ether, and immediately ignited it!

This may rank with Davy's experiment of throwing potassium on ice, whereby it becomes ignited and burns; and Boutigny's experiment of freezing water in a red hot platina crucible! Two centuries since, successful experiments of this kind would have been quite sufficient to establish a charge of witchcraft, and to have led to the punishment of death at the stake!

COD-LIVER OIL AND ITS ADULTERATIONS.

A correspondent, writing to a contemporary, complains that he has paid for cod-liver oil sometimes at the rate of three shillings. and on other occasions at the rate of six shillings and eightpence per pound. The cheap oil is, we believe, a mixture of seal and other fish oils, with perhaps a slight dash of cod-liver oil. We should like to have the results of a fair series of experiments on the two sorts of oil—to be conducted by a physician not aware of the difference in price or quality. A table of them would, we believe, prove an interesting addition to medical experience.

THE PROFESSORSHIP OF MEDICINE AT UNIVERSITY COLLEGE.

Dr. Walshe has been appointed Professor of Medicine in University College, in the place of Dr. Williams, who has resigned. The Chairs on Clinical Medicine, and on Pathological Anatomy, vacated by Dr. Walshe, will, it is expected, be filled by Dr. Parkes and Dr. Garrod respectively.

UNIVERSITY INTELLIGENCE, CAMBRIDGE.

Waller Augustus Lewis, B A., Caius College, of 20, Edwards Street, Portman Square, Lecturer on Botany at the Hunterian School of Medicine, had the degree of M.B. conferred on him on Monday last.

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 7th of June, 1849:—Frederick William Dix, Long Buckby, Northamptonshire—Thomas Sutton Ludlow, Leire, Leicestershire—James Gilbert Martyn, Camelford, Cornwall—George Evans, Northover, Somersetshire—Charles Christopher Hayman, Axminster, Devon—Samuel Standidge Shackles, Hull, Yorkshire—Thomas Carlyle Beatty, Easingdon, Durham.

OBITUARY.

JOSEPH BELLOTT, ESQ.

On the 22d February last, at the Parsonage, Poynton, Cheshire, Joseph Bellott, Esq., æt. 82, Consulting-surgeon to the Stockport Infirmary; House-surgeon to the Westminster Hospital, London, in 1787. He passed the College of Surgeons, London, for Assistant-surgeon in H. M. Royal Navy, Feb. 5, 1789, and for his promotion as Surgeon, June 3d, 1790; served in H.M. ship Pegasus on the coasts of Spain and North America; after which he retired from the service. He received his commission as Surgeon to the "Stockport Volunteers" from his late Majesty George III. 3d June, 1795, and was appointed Surgeon to the Stockport regiment of the "Local Militia," by the Lord Lieutenant of the county, Sept. 24, 1808.

MR. RICHARD CARMICHAEL, OF DUBLIN.

An accident of a most melancholy nature has deprived Dublin of one of the most distinguished ornaments of the medical profession,—surgeon Richard Carmichael, who lost his life last week under the following afflicting circumstances:—It appears that the lamented gentleman was proceeding on horseback to his country residence at Sutton, near Howth, and, on arriving at a part of the strand where a stream or inlet of the sea flowed in over the sandy beach, he asked some persons who were at hand if it would be safe to cross there, and being answered in the affirmative, he ventured across, but when more than half way the horse got out of his depth, and after swimming for a little leaned over, and fell on his side, when the rider lost his seat, and became submerged in the tide. Up to 8 o'clock the next morning the search for the body of the deceased had proved ineffectual. He has left a widow, but no family, and is reported to have been in extremely affluent circumstances.

Selections from Journals.

REMARKS ON VARIOUS MODES OF SUICIDE.
BY M. BRIERRE DE BOISMONT.

According to M. de Boismont, the number of suicides in the department of the Seine alone, amounts annually to *six hundred*, without reckoning attempts, which are twice as numerous. This has furnished medical jurists with the means of establishing characteristics of each kind of death, and of determining, in the immense majority of cases, the distinctions between suicide and homicide. M. de Boismont makes known the results at which he has arrived, from the analysis of 4592 instances, respecting the modes of perpetrating suicide.

They are thus stated:—

1426 by asphyxia from charcoal.
989 — drowning.
796 — strangulation.
578 — fire arms.
424 — precipitation.
207 — cutting instruments.
158 — poisoning.
16 — crushing.
1 — starving.

Death from asphyxia by charcoal fumes.

The symptoms in these cases are well known. It may happen that the charcoal fumes have only been secondary to some other means of suicide, as in the following case.

Case I.—*Charcoal—Opium.*—A woman about thirty years of age was found lying on her bed in a state of stupor, with stertorous breathing, which announced approaching dissolution; the heart beating with considerable force; the countenance swollen; the eyelids tumid; the face pale; the eyes half closed. On raising the eyelids the eyes appeared motionless, sunken, the pupils dilated, the iris insensible to light. The limbs were relaxed. On the couch and in a brazier on the ground were some pieces of burnt charcoal; there was no doubt that a considerable quantity had been burnt, for the ashes covered a surface of a foot and a half in diameter. The furnace was cold, showing that combustion had ceased several hours previously.

The symptoms nevertheless were not entirely those of a person asphyxiated by charcoal; they were rather to be referred to some narcotic substance. On further search a small vial was found, which had contained diluted watery extract of opium. Assistance was unavailing, and the patient died in about an hour's time.

The conclusion arrived at was that this

woman had died rather from poisoning by opium, than by asphyxia from carbonic acid. The state of torpor into which she was plunged is not met with in poisoning by charcoal fumes: in these cases the warmth of the body is retained, or even increased. The limbs are flexible, the countenance is red and turgid, the eyes bright, while a reddish mucous froth escapes from the mouth and nostrils, and there are several other well known signs which as well as the preceding, were absent in the case under consideration.

Asphyxia from charcoal may give rise to secondary effects, which may induce death after all signs of asphyxia have passed off; such as paralysis, spasmodic actions, contraction of the joints, and pneumonia—of all which, instances have been seen by Cruveilhier, Bourdon, and De Boismont. Hæmorrhages are also frequent. In some emission of semen takes place. Labour has been known to have been induced by the convulsive struggles caused by the poison.

The animal heat is very long retained; it was nearly entirely so in the body of a man who had been dead ten hours, his body lying covered up in bed; another preserved some heat in the dorsal region forty hours after death; the body of a woman was found warm and flexible, while that of a little dog beside her was stiff and cold.

The rapidity with which death takes place is dependent on the smallness of the chamber and the accuracy with which all chinks are stopped. When these two conditions are combined with elevation of temperature, decomposition may be very rapid. The body of a man who died at night was so putrid the following day, that the odour was insupportable: the corpse was black, swollen, and covered with phlyctenæ.

Accidental death may sometimes be confounded with suicide, and the distinction may not be easy to establish. A man who was in the habit of drinking to excess, laid himself down to sleep beside his comrade, who he thought was asleep, but who had poisoned himself by asphyxia from charcoal fumes: the smell of the gas, the difficulty of breathing, the instinct of self-preservation, made him open the casement; without this instinctive act he would have perished, and would have been regarded as a suicide. This case gives rise to several reflections. A man may be made drunk, then a chafing dish of burning charcoal placed near him, and he may be said to have asphyxiated himself. Again, the gaseous fumes having taken a man by surprise while standing, he falls, and thereby fractures his skull, it may be said that he has been first murdered, and his body so placed as to give the appearance of death from asphyxia.

It sometimes happens that the countenance exhibits no signs of asphyxia by charcoal; the features are natural, the figure tranquil and calm: most of those in this category, to the number of eleven, seemed simply to sleep. In such cases death has been rapid, from the great quantity of vapour and the complete closing of all apertures in the chamber.

A man and a woman were found dead from asphyxia lying in the same bed, each held in the other's embrace; their aspect expressed no suffering, but seemed even expressive of happiness.

Six of these cases of asphyxia still gave signs of life, one even recovered consciousness, but sank in two days afterwards. In this case, in which consciousness was restored, all memory of what had occurred was lost.

Of two men who deemed that death by charcoal was not sufficiently rapid, one had endeavoured to strangle himself by a handkerchief, the other had punctured his carotid artery.

M. Brierre de Boismont quotes another case from M. Villeneux, in which the subject had tried three modes of suicide, viz., cutting his throat, blowing his brains out, and lastly, poisoning by charcoal.

Another case is from a medico-legal report to the police authorities, by Drs. Durocher and Montauzeux, on a double suicide and homicide by a man and woman. The body of a woman was found in bed with mortal penetrating wounds of the chest, and she had evidently been dead some hours. The body of the man was found on the ground, and presented injuries about the face, the effects of fire-arms, a punctured wound of the chest, and a chafing dish of hot charcoal between his legs.

Death by Drowning.

This, in many instances, seems to be attributable rather to syncope than to asphyxia, the person being dead from fright before reaching the water. This must have occurred in several cases in which the body was withdrawn from the water after extremely short intervals, but in which means for resuscitation were tried without success, or life was already gone.

Death by *immersion* may also occur very quickly. A man thrust his head into a vessel of water not more than a foot in depth; it was immediately (?) withdrawn, but he died in a few minutes. The same was noticed in another instance in which, when the person was rescued, the heart was still beating, but death ensued in a few hours after.

Decomposition in these cases may be more rapid than is stated in works on legal medicine. The body of a young man which had been immersed three days was found very far advanced in decomposition. The hands were found detached from the arms of a corpse which had been submersed three months. The changes produced by prolonged submersion may give rise to errors with respect to age, the bodies of persons of fifteen and sixteen years of age seeming to be those of individuals forty years old.

It is not always easy to determine whether the traces of violence in cases of drowning arise from accidents attending the act of submersion, or whether they belong to injuries of a mortal character previously inflicted; so that a doubt may exist as to whether the case be one of suicide or homicide.—*Annales d'Hygiène, Octobre*, 1848. χ

[To be continued.]

CASE OF POISONING BY ARSENIC IN WHICH THE SYMPTOMS OF NARCOTISM WERE PROMINENT AT THE COMMENCEMENT.

BY C. MOREHEAD, M.D.

A HINDOO goldsmith, of about 30 years of age, was brought to the Jamsetjee Jejeebhoy hospital on the morning of the 21st May, 1847, at 6 A.M. He had been picked up by the police on the public street. He was comatose; his pupils were dilated; the breathing was natural; the pulse frequent; there was no appearance of injury, and no emaciation, or sign of long continued sickness.

As he was being lifted from the cart in which he had been conveyed to the hospital, he vomited a little bilious matter. Nothing was known of his history. Cold affusion was used to the head, and an emetic of ipecacuanha and carbonate of ammonia was given. The emetic acted readily, and he became sensible. He vomited several times during the day, and was purged two or three times, the evacuations consisting of gelatinous-looking mucus. Towards evening the pulse had become very feeble, the breathing hurried, the thirst and anxiety considerable, with occasional retching. He died about 5 o'clock A.M. on the 22nd instant. The only statement he made was, that he had eaten some sweetmeats the night before he was brought to the hospital. The result of the coroner's inquest was, that he had taken poison himself.

Inspection six hours after death. The body was in good condition. Abdomen: there was a general blush of redness over the peritoneal covering of the stomach and small intestines; but no effusion into the sac of the peritoneum. The stomach was opened, and found to contain about six ounces of a dark watery fluid, with mucous sediment, partly tinged with blood, and containing some white, gritty particles. There was general redness of the mucous lining of the stomach, characterized towards the cardiac end by a dark, patch-like arrangement; and towards the pyloric end there was a dark and more diffused redness, leading to an almost black patch, about three inches long and two in short diameter, raised somewhat above the general level, and abraded in part of its surface. There was dark redness in patches of the mucous lining of the duodenum, and a general blush, with increased secretion of mucus on that of the jejunum, and of the ileum and cæcum. The thoracic viscera were healthy; there was slight congestion of the vessels of the pia mater of the brain.

Analysis.—For the following note of the analysis of the contents of the stomach, I am indebted to Dr. Giraud. "About four ounces of a mucous flocculent fluid taken from the stomach, containing a few minute, white, brittle particles. These particles, weighing about the tenth of a grain, were sublimed in a tube into a white crystalline ring;—this with the part of the tube on which it was deposited, being placed in a reduction tube with charcoal powder, gave a steel-grey metallic ring, which, on being heated in a wide tube, was re-converted into a white crystalline sublimate. By Reinsch's process metallic deposition on copper was obtained from the above-mentioned fluid; this yielded a white crystalline sublimate, which, on solution in water, gave the characteristic effects of arsenious acid with ammoniaco-nitrate of silver, ammoniaco-sulphate of copper, and sulphuretted hydrogen. By the foregoing processes arsenious acid and metallic arsenic were obtained from the white particles found in the fluid of the stomach; and from the fluid itself metallic arsenic was procured, and made to pass through its various compounds of arsenious acid, arsenite of silver, arsenite of copper, and orpiment."

Remarks.—The interest in this case consists in the strongly marked narcotic symptoms shown on admission into hospital. It was viewed then as a case of narcotic poisoning, and treated as such. Subsequently its nature was sufficiently evident. A circumstance not noted in the case attracted my attention, when the narcotic symptoms were present. There was a fixed frown on the countenance, an expression of suffering not usual in simple narcotism, and to which, probably, more importance as a diagnostic sign should have been attached.—*Trans. Bombay Medical Society.*

QUININE IN RHEUMATISM.

SHEPHERD, a female patient, suffered for a long time under a succession of attacks of great violence and intensity. No management seemed to arrest them more readily than the administration of quinine, in a dose of twelve or fifteen grains daily. Another woman in the same ward, with an attack of a few days' standing, decidedly inflammatory, with red, swollen, and tender joints, and some fever, though a rather feeble diathesis, recovered almost at once when "quininised."—*American Journal of Medical Sciences.*

BOOKS & PERIODICALS RECEIVED
DURING THE WEEK.

Annuaire de Chimie, 1849. Par E. Millon et J. Reiset.

Journal de Chimie Médicale. No. 4, Juin.

Comptes Rendus. Nos. 20 and 21, 14th and 21st May, 1849.

Traité Complet de l'Art des Accouchemens. Par M. P. A. Dubois.

Memoirs of the Ganglia and Nerves of the Uterus. By Robert Lee, M.D. F.R.S.

The Boston Medical and Surgical Journal. May 1849.

On Parthenogenesis, &c. By Richard Owen, F.R.S. &c.

A Treatise on Diseases of the Bones. By Edward Stanley, F R.S. &c.

Illustrations of the Effects of Disease and Injury of the Bones. By Edward Stanley, F.R.S. &c.

La Presse Médicale. No. 24, 10me Juin.

Casper's Wochenscrift für die gesammte Heilkunde. Nos 18, 19, and 20, Mai.

Die Diagnostik verdächtiger Flecke in Criminalfällen. Von Carl Schmidt.

Sketches of Character. By Anna H. Potts.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 29·90
" " " Thermometer[a] ...... 59·7
Self-registering do.[b] .... Max. 97·3 Min. 36°

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·13.—Sum of the daily observations taken at 9 o'clock.

METEOROLOGICAL.—The mean temperature of the week was 1° above the mean of the month.

BIRTHS & DEATHS IN THE METROPOLIS
During the Week ending Saturday, June 9.

BIRTHS.		DEATHS.		*Av. of 5 Spr.*	
Males....	689	Males....	523	Males....	494
Females..	702	Females..	448	Females..	469
	1391		971		963

CAUSES OF DEATH.		*Av. of 5 Spr.*
ALL CAUSES	971	963
SPECIFIED CAUSES	966	959
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	251	196
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c.	34	48
3. Brain, Spinal Marrow, Nerves, and Senses	120	128
4. Heart and Bloodvessels..........	43	39
5. Lungs and organs of Respiration	102	131
6. Stomach, Liver, &c.	60	68
7. Diseases of the Kidneys, &c.	14	11
8. Childbirth, Diseases of Uterus, &c.	5	6
9. Rheumatism, Diseases of Bones, Joints, &c.	13	8
10. Skin..........................	0	1
11. Old Age	34	50
12. Sudden Deaths..................	9	11
13. Violence, Privation, Cold, &c....	49	33

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox..........	9	Convulsions........	41
Measles............	21	Bronchitis	38
Scarlatina	40	Pneumonia	39
Hooping-cough	58	Phthisis	128
Diarrhœa..........	20	Lungs	7
Cholera............	22	Teething	12
Typhus	38	Stomach	6
Dropsy	11	Liver..............	6
Hydrocephalus	26		
Apoplexy	14	Childbirth	4
Paralysis	30	Uterus	0

REMARKS.—The total number of deaths was 8 above the weekly Spring average. There has been a sudden increase in the deaths from Cholera. Of the 22 fatal cases registered this week there were 7 under 15 years, 2 above 60, and 13 at the adult period of life.

NOTICES TO CORRESPONDENTS.

The length of Mr. Paget's lecture and of two other communications, has rendered the postponement of Dr. Black's continuation paper unavoidable. It will appear next week.

The papers of Dr. Campbell (Lisburn), Mr. Grantham, and Mr. Clark, will be inserted in the following number.

R. W. will, we think, find all that he wishes to be stated regarding the election of Members of Council at the College of Surgeons, contained in a letter inserted in the present number (p. 1047). His letter is left with the printers, and may be had on application.

A Subscriber to the South London Dispensary must attach his name to his letter.

RECEIVED.—Mr. Hanks.—Mr. Yearsley.—Mr. Ross.

CORRIGENDUM.—At p. 1005 of our last number, col. 1, and first line, for "hatenùs," read "*hactenùs.*"

THE GENERAL INDEX.

We have to announce to our Subscribers that a GENERAL INDEX to the *first* 40 *Volumes* of the LONDON MEDICAL GAZETTE will, it is calculated, form a large Volume of about 700 pages. The cost of the INDEX VOLUME, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. WILSON AND OGILVY, 57, Skinner Street, will receive the Names of Subscribers.

Lectures.

COURSE OF SURGERY,

Delivered in the years 1846 *and* 1847,

By Bransby B. Cooper, F.R.S.
Surgeon, and Lecturer on Surgery at Guy's Hospital.

Lecture LVII.

DISEASES AND INJURIES OF VASCULAR SYSTEM.—(Continued.)

Wounds of arteries—suppression of hæmorrhage by ligature—different kinds of ligatures—precautions in their application—effect of placing a ligature on an artery—case. Separation of the ligature—operation of applying a ligature—Compression for the cure of aneurism——applying a ligature around the arteria innominata — difficulty in diagnosing aneurism of that vessel—case. Question whether an admissible operation—description of the operation. Tying the axillary artery—steps of the operation—precautions to be taken. Tying the brachial artery—operation—aneurismal varix—how produced — treatment for cure—case—operation.

Suppression of hæmorrhage by ligature.—The means of suppressing hæmorrhage hitherto described, are applicable only in cases of diffused bleeding, or where small superficial vessels, or freely anastomosing branches, are injured; they are totally incompetent to stop hæmorrhage in case of lesion of a great artery, and under such circumstances the only mode of procedure which has borne the test of experience is the application of a ligature around the vessel between the heart and the point of lesion, and in some cases on the distal side of the latter also, so as to intercept the flow of blood, until Nature by her own reparative process has rendered the canal completely impervious.

Ligatures of different kinds have been employed by surgeons from the time of Hunter; some having advocated the use of two ligatures applied at short distances from each other, the artery being divided between them; some a broad ligature, or a ligature applied with some substance intervening between it and the artery; and, others, a thin ligature of silk, or one formed of some substance supposed to be capable of being dissolved and absorbed. When, however, Dr. Jones published his work on this subject, he gave so scientific an account of the processes resulting from the application of a single thin ligature around an artery, as to lead to its general adoption. Many years ago I instituted a series of experiments upon dogs, for the purpose of closely investigating the effect of a ligature upon an artery, and I arrived at the conclusion that a larger ligature than that proposed by Dr. Jones was more efficacious, as in every instance in which it was tried it came away more quickly, and produced a more complete obliteration of the vessel. During the progress of my researches I was anxious to ascertain the effect of forcibly removing the ligature soon after it had been applied, with the view of inducing secondary hæmorrhage; but I could not in any one instance produce this result. A question, however, exists as to whether this certain and rapid obliteration of the vessel depended upon its healthy condition, or upon the rapidity with which reparation is established in the lower animals: either of these modifying circumstances is sufficient to destroy the analogy between the experiment on a dog, and the operation on the human subject. I am certain, however, that in practice a large silk ligature is preferable to one of small size; I believe, because it divides with equal facility the internal coat of the artery, and is not so liable to injure the external tunic. My late colleague, Mr. Wilkinson King, was of opinion that the division of the internal coat of the vessels by the ligature was not essential to its obliteration, and that this depended upon a direct action of the ligature on the vasa vasorum, external to the vessel. It has, however, been frequently shown, that when a ligature is placed loosely around the vessel, or removed soon after its application, secondary hæmorrhage generally followed; proving not only that the ligature must be tied sufficiently tightly to divide the middle and internal coat, but also that it must be allowed to remain to be thrown off by Nature when the obliteration is completed. In the operation of applying the ligature there is, however, one precaution of great importance, and deserving the closest attention—viz. not to make a more extensive separation of the vessel from its cellular attachments than is positively necessary to permit of the ligature being passed around it; for the obliteration is quickly and securely effected in proportion to the slightness of the disturbance the artery has undergone. Shortly after a ligature has been applied to an artery, the blood begins to coagulate, forming a clot, which extends into the artery both above and below the constricted part: this coagulation takes place with a rapidity proportioned to the diminution of the action of the heart, and is much retarded by any increase in the motion of the blood within the arteries. It occurs more rapidly in the vessels of the extremities than in those nearer the heart, and in small than in large vessels.

The length of the clot depends upon the distance of the first large branch from the point at which the ligature is placed : the farther this is off, the longer will be the clot. The small branches leading off near the point of constriction are filled by the coagulated blood, which also often partly fills even larger branches, if these be situated near where the ligature is applied. The clot generally fills up completely the cavity of the constricted vessel, but is not adherent to it, excepting where the internal coat is injured by laceration, in which case the coagulum firmly adheres: it cannot, however, of itself oppose any permanent effective barrier to bleeding from the artery.

In the course of a short period, according to the size of the artery, in consequence of the irritation excited by the clot and ligature, vessels begin to extend into the coagulum from the capillaries of the contiguous coats ; a plastic organized substance is then effused ; the clot becomes smaller and lighter in colour; it adheres to the internal coat of the vessel, so that it can only be separated by force, and it now begins to assume the appearance and character of flesh. After a time, this organized structure, and the internal coat of the artery, grow completely together, and the danger of secondary hæmorrhage is thus precluded. When a ligature is applied to a vein, the coagulum is not formed in the proximal but in the distal side of the ligature : all the other changes (which are similar) take place more quickly than in the arteries.

It must be borne in mind, that the application of the ligature, however dexterously the operation may have been performed, does not always prove efficient to the desired object, and the failure may depend either upon a want of constitutional power in the patient to form the plasma, or upon some physical condition which interferes with the formation of the clot. Indeed, as far as refers to the constitution of the patient, the same considerations would prevail here as in every other description of wound ; but the surgeon must employ his scientific knowledge and judgment to obviate the physical difficulties that may present themselves. If after the application of a ligature to an artery, the clot should not be formed from either of the causes mentioned above, secondary hæmorrhage would necessarily occur ; and perhaps no case can be brought under the notice of the surgeon which offers greater difficulties than the suppression of these hæmorrhages after the failure of a ligature. This fact was powerfully impressed on my mind at an early period of my professional career, in a case at Rotherhithe, in which I tied the external iliac artery of a gentleman. I experienced no difficulty in the operation, nor afterwards, until the twenty-second day, when I observed on dressing the wound a small fungus-like granulation surrounding the ligature : from this a drop or two of florid red blood issued upon the slight pressure of the plaster placed to support the cicatrix of the external wound, which had now quite healed, with the exception of the opening through which the end of the ligature protruded. The appearance of the excision about the ligature created great apprehension in my mind, and my fears were soon confirmed, for about 12 o'clock the same night, a messenger came for me, stating that a most alarming bleeding had taken place. I immediately accompanied him, but when I arrived the hæmorrhage had ceased. I found that the cicatrix had given way, and the whole wound was now filled with a large coagulum of blood. I immediately sent for my friend and then colleague, Mr. Green, who had been present at the operation, and on consultation we decided that the turning out the clot of blood for the purpose of exposing the lacerated extremities of the artery would probably produce a gush of blood that would at once destroy the patient ; and as several cases are recorded where, under similar circumstances, the effused clot had itself by its pressure upon the artery produced an inflammation competent permanently to seal the vessel, we determined to trust to the chance of this effect being produced. In this case, however, it failed, and the patient sunk from a recurrence of the bleeding. Upon a post-mortem examination, it was found that there had been no effort on the part of Nature to close the vessel : not the slightest trace of clot was found either in the proximal or distal side of the ligature, which had come away at the first hæmorrhage ; and when a probe was passed up the vessel, it could be distinctly seen shining through the attenuated coats. In this case the mischief evidently arose from want of constitutional power, and I afterwards ascertained that the individual was in the habit of indulging to great excess in the use of wine and brandy; but this was not at all indicated by his general appearance. I of course treated him in the usual manner under such circumstances, but had I been acquainted with his habits, I should certainly not have wholly withheld his accustomed stimulus.

The precautions necessary upon the application of a ligature upon a larger artery to prevent the liability to secondary hæmorrhage from a physical cause, are—1. Not to place the ligature too near a large branch given off by the trunk to be tied ; 2. Not to disturb more than can be avoided the surrounding cellular connection to the vessel; 3. To tie the ligature firmly, but not with a force sufficient to cut into the external coat of the artery, which would lead to the separation of the ligature before the adhesive process was sufficiently established; 4. To be careful in the mode of tying the knot in the ligature, so that it cannot loosen (that called the reef knot is the best suited to the purpose); and lastly, the surgeon should not interfere with the ligature so as to hasten its separation, but patiently leave it to Nature's own process. The period at which the separation will occur, will differ according to the size of the artery, and the peculiar constitution of the patient. An interference on this point is the more reprehensible, as all the statistical accounts of secondary hæmorrhage prove that on their occurrence the danger is diminished in proportion to the length of time that has elapsed after the tying the artery, and that few prove fatal after the lapse of between thirty and forty days; but notwithstanding all these precautions, the application of a ligature may prove abortive, in consequence of some abnormal distributions of the trunk upon which the ligature has been placed.

Application of ligatures.—When a ligature is to be applied to an artery for the purpose of staying a dangerous hæmorrhage, whether this bleeding results from the separation of a ligature previously applied for the cure of aneurism, from an incised wound in an artery, inflicted by accident or by the hand of suicide, or in those cases where eight or ten days after amputation a secondary hæmorrhage results, it may under any of these circumstances be imprudent to attempt to resecure the artery at the bleeding point, but much safer to cut down on the proximal side of the injury; thus avoiding the loss of blood at the point of lesion in the vessel during the progress of the operation, and securing the advantage of placing the ligature upon a sound part of the artery.

The application of a ligature upon a large artery, either for the purpose of checking hæmorrhage, or for the cure of aneurism, constitutes a most important surgical operation, requiring perhaps more anatomical knowledge than almost any other kind of operation: it is therefore proper to describe circumstantially the different steps to be followed in performing this operation upon the larger arteries: before doing so, however, I must introduce a few remarks upon compression as a cure for aneurism.

This practice has particularly been revived in Dublin within the last few years, apparently with a degree of success, and that entitles the subject to the serious attention of surgeons. The use of compression in aneurism is founded upon observations made upon the method adopted by nature. Where a spontaneous cure has been established—viz. the diminution of the quantity of blood flowing through the trunk of the diseased artery, the coagulation of the blood within the sac, and its consequent contraction, and the enlargement of the collateral blood-vessels to convey the blood to the parts below, the operation of compression consists in applying between the aneurismal sac and the heart, a pad or compress, so arranged that the amount of pressure may be varied at the will of the operator, never being applied with sufficient force to completely arrest the flow of blood through the vessel, but merely to check its force: this being found sufficient to establish that tendency to coagulation necessary to cause obliteration of the sac. The idea of applying compression for the cure of aneurism appears to have originated in the year 1680, with the Abbé Bourdelot, who having had the brachial artery of his right arm wounded, invented and applied a compressing instrument by which he ultimately effected a cure of the aneurism which had resulted. The instrument was termed a "ponton," and was formed of a pad with straps for the purpose of fastening it above and below the elbow. The first surgeon who employed compression for the cure of popliteal aneurism, was Maltani, an Italian. His plan of treatment consisted in applying compresses over the tumor, and bandaging tightly the whole length of the thigh, keeping the bandage wetted with vinegar and water. This treatment in his hands seems to have been in every case attended by success, and upon it the more modern system of treatment by compression is founded.

The instrument used at the present time in compression resembles in the manner of its operation the tourniquet, but it has been constructed with numerous modifications. The greatest improvement in the modern application of compression consists in the use of two or more compressing instruments at the same time, so that when the pain becomes intolerable to the patient, which is often the case, instead of removing the whole apparatus, the pressure may be only transferred to another point in the course of the artery; and if two instruments are used, the pressure may thus be made alternately. And this appears to be quite an efficient method of applying the pressure: for, as I have before stated, the effect is produced, not by completely stopping the current of blood through the vessel, but by diminishing its force, which is sufficient to cause the deposition of fibrin in the sac, so that it shortly becomes quite filled up and destroyed. Compression is not intended to produce obliteration of the artery, but the destruction of the sac itself, the interruption of the circulation by the pressure causing an increase in the size of the anastomosing vessels sufficient to provide for the nourishment of the limb. The compression must be made at that part of the limb where the artery is least deeply seated, and it must be made only at two opposite points, not comprehending the whole circumference, so that the collateral circulation of the limb is not impeded, and the vessels left free to receive an additional quantity of blood. The pain in this operation is sometimes excessive, becoming indeed perfectly unbearable: it is said that the femoral and brachial arteries bear compression best, but the medium nerve lying close to the brachial artery often renders compression here very painful.

Many years ago, Sir Astley Cooper (about 1796) attempted to cure a popliteal aneurism by compression. The apparatus he employed was an iron ring with a cushion, which was placed on the outer side of the limb, and a screw with a pad so placed as to compress the artery at the will of the surgeon; but to employ his own words, "the use of it was worse than the operation:" in a few hours after its application, the patient declared that he would submit to any operation rather than bear the excruciating and protracted pain. Sir Astley Cooper concludes his account of the case as follows:—"The plan of pressure on arteries does not succeed, and therefore ought to be abandoned."

I am inclined to believe, however, that Sir Astley Cooper committed the same error in the application of the compress, which I have myself fallen into—viz. that of considering it necessary to apply the pressure with sufficient force to stop the pulsation in the tumor; while, on the contrary, it only appears necessary that the current of the blood should be checked, which seems to tend much more to the coagulation of the blood than when its flow is wholly arrested.

A few months ago I admitted a patient with popliteal aneurism into Guy's Hospital, and as I considered the case well fitted for compression, I sent to Dublin for Mr. Milliken's clamp compressors, and applied the larger one in the upper third of the thigh, and the smaller one so as to compress the artery at the point where it pierces the tendon of the adductor magnus muscle, desiring the patient himself to adjust the pressure, and when it became intolerable in one point to transfer the pressure to the other,—by screwing down the second pad, and then relaxing the first,—and thus to employ them alternately as the pain became excessive at either part.

The patient, however, notwithstanding the diminution of the tumor, and its evident increasing hardness, would not submit to a continuance of this protracted mode of cure, and begged of me to tie the artery, which I did, and the man perfectly recovered.

My colleague, Mr. Cock, had a patient about the same time, in whom he tried the use of this instrument; but in his case also the patient would not submit to the pain produced by the instrument, and desired that the operation should be performed. It should be remarked, that in these cases the pressure was not applied with sufficient force to stop the circulation, but only to a degree sufficient to check the current.

In 1833 I admitted a patient into Guy's Hospital, with an aneurism in each popliteal region. The one on the left side was very small, and I therefore thought it a good case to try compression. I tied the right femoral artery for the cure of the larger aneurism; and upon the small tumor on the left side, I applied a graduated compress, so as to fill the whole of the popliteal space. I then bandaged the whole of the lower extremity, commencing with the toes separately, with the view of modifying the flow of blood through the sac; the pressure on the sac being, however, much greater than on the rest of the limb. The bandage was adjusted three or four times during the period that the patient was confined to bed during the progress of the healing of the wound on the opposite side. On the eighteenth day the ligature came away; at the end of five weeks the wound had perfectly healed; and upon removing the compresses from the left limb, no other remains of the left aneurism existed than a small, hard, non-pulsating tumor: the patient was discharged cured, but in about six months after he came back to the hospital, the aneurism on the left side having returned. I then tied the femoral artery, and the patient perfectly recovered.

I have not recited these cases with a view of condemning the application of compression as a cure for aneurism, for there is much too high authority for the efficacy of this plan to warrant any surgeon's unqualified condemnation of it; but still, as these cases occurred in my own practice, I considered it right to describe them. A good account of this plan of treatment, and numerous cases showing its favourable result, has been published by Dr. O'Bryen Bellingham, of Dublin.

Should the treatment of aneurism by compression be inapplicable, either from the position of the artery, or from the inability of the patient to sustain the continued pressure necessary to the cure, recourse must be had to the use of ligature, for the purpose of at once cutting off the direct communication between the heart and the aneurism.

Operation of applying a ligature around the arteria innominata. — When aneurism occurs so close to the origin, either of the common carotid or subclavian arteries, as to render it impossible to apply a ligature to those vessels on the proximal side of the tumor, it becomes necessary to tie the arteria innominata; but before this operation is undertaken, the strictest investigation is required to ascertain that neither the innominata itself, nor the arch of the aorta, are the subjects of disease. Nor is the diagnosis in such a case easy; for in consequence of the interruption to the flow of blood through the carotid or subclavian arteries, an unnatural impulse is given to both the aorta and arteria innominata, which may be mistaken for aneurism of those vessels,—or should they be the seat of aneurism, the inordinate pulsation may be mistaken for the mere obstruction caused by the disease in the more distant vessels.

In illustration of this fact, I will relate the following case:—Mr. Allan Burn, many years ago, wrote to Sir Astley Cooper to consult him as to the best mode of placing a ligature around the arteria innominata, as he had a patient who had aneurism of the subclavian artery, just as it sprung from the arteria innominata. Sir Astley Cooper, in answer, after describing the manner in which he should proceed in the operation, said, "but take care that the disease itself is not seated in the arteria innominata, or arch of the aorta." Mr. Burn was thus induced to most carefully examine his patient, but could not positively decide in his own mind as to whether the arteria innominata itself was not diseased, and therefore did not perform the operation. The patient died about two months after from hæmorrhage, and upon examination of the body it was found that both the aorta and the arteria innominata were diseased. There is at the present time a case in Guy's Hospital, under the care of Dr. Babington, in which there is great diversity of opinion as to whether the aneurism be situated in the subclavian only, or whether the innominata and arch of the aorta be also implicated in the disease.

The arteria innominata was first tied by Dr. Mott, and has been tied five or six times subsequently, but in each case unsuccessfully. Mr. Liston, at the London University Hospital, preferred tying the origin of the carotid and subclavian in a case of aneurism of the latter vessel, with the hope thus of producing obliteration of the arteria innominata. Upon the separation of the ligature, however, hæmorrhage took place from the distal extremity of the divided arteries, and the patient died thirteen days after the operation.

From all the attempts to render the arteria innominata impervious having failed, it becomes a matter for deep consideration, whether the operation can be considered admissible as offering any just hope of ever lengthening the life, and whether there is not at least as much chance of nature establishing a spontaneous cure as of a successful result attending this hazardous operation. As, however, under certain favourable conditions, it is possible that the operation may yet be considered advisable, I shall describe the mode of procedure I consider it best to adopt.

The patient should be laid on his back on a table, a hard pillow being placed beneath his neck and shoulders; the head being allowed to hang back so as to keep the anterior region of the neck on the stretch. An incision about two inches in length is made along the tracheal edge of the sterno-cleido mastoid muscle, terminating at its lower extremity just below the superior edge of the sternum. A second incision is then made transversely from the termination of the first outwards over the right sterno-clavicular articulation, and extending to the acromial edge of the clavicular origin of the sterno-cleido mastoid muscle. This cut is only to divide the skin and platysma myoides. The triangular flap of skin must now be turned back, and a large vein will then be seen running parallel with, and close to, the clavicle: this is to be drawn downwards, so that it may be avoided by the operator. The cellular membrane and fat must next be dissected from the clavicular origin of the sterno-cleido mastoideus, which is itself, as well as its tendinous sternal origin, to be divided upon a director. The sterno-hyoidei and sterno-thyroidei muscles are now exposed: a director is to be pass d from without to within to ensure their safe division: the knife may soon be laid aside, and with the assistance of a pair of forceps the deep fascia of the neck is to be scraped away with a silver knife or other convenient instrument, when the common carotid will be distinctly exposed, and is to be traced to its origin: when more deeply seated, and to a certain extent hidden behind the carotid, the subclavian artery will also be found. These vessels must be separately cleared from their fascial coverings, if it be the intention to put a ligature upon their origin for the purpose of obliterating the artera innominata; but if it be the intention of the operator to place the ligature around their common trunk, the aneurismal needle must be passed down behind the sternum, guided by the finger, so as to secure the application of the ligature sufficiently distant from the origin of its terminal vessels. In passing the aneurismal needle in all these cases, it must be directed from below upwards, and from without to within.

Perhaps the most convenient instrument that can be used for passing the ligature is Dr. Mott's screw-needle: the surgeon should, however, always be furnished with several kinds of aneurismal needles, that he may be the better prepared to meet exigencies that may present themselves. It is remarkable that in all the cases in which the arteria innominata has been tied, death has arisen from hæmorrhage, and not in consequence of functional disturbance produced by cutting off suddenly the supply of blood to the brain through the right carotid and subclavian arteries.

In a former division of these lectures, when describing the surgery of the different regions, I gave an account of the operation of tying the carotid and subclavian, and their principal branches, both above and below the clavicle. I shall now, therefore, proceed to the operation of tying the axillary artery.

Tying the axillary artery.—In cases of aneurism either of the axillary itself or the upper part of the brachial artery, I do not conceive that any surgeon would recommend the application of a ligature upon the axillary, but would prefer to secure the subclavian artery above the clavicle in the manner I have already described. It may, however, appear to some that it might be advisable to tie the subclavian below the clavicle, but this operation is in itself much more difficult; and, as there is no branch given off in the part of the vessel between the points selected for the upper and lower operation, there can be no reason why the more difficult operation of the two should be chosen. It might, however, from a wound in the axillary artery, be considered right to cut down upon it, to apply a ligature above and below the opening. Before the operation is undertaken, however, the precise part of the artery which is wounded should be ascertained, so as to decide whether it is in the upper or lower third that it ought to be secured: the middle third should never be selected for the application of the ligature, as the vessel is here completely surrounded by the brachial plexus. In the operation of tying the artery in the upper third, where it first takes the name of axillary, an incision is made very similar to that in the operation of tying the subclavian artery below the clavicle, commencing in the cleft between the sternal and clavicular portion of the pectoralis major, and being continued downwards and outwards to the axilla. If the arm be now adducted, the fibres of the pectoralis major may be easily separated, or, if necessary, may be divided, and the pectoralis minor will then be exposed: the superior edge of this is to be drawn down by a retractor, when a strong fascia will be seen. This is to be divided: the artery will be seen lying beneath it, where it may be secured. This operation I cannot, however, conceive to be a safe one, or affording facility to the surgeon: unsafe, as, from the close vicinity of the cephalic and axillary veins, there is great danger of wounding them, and difficult, owing to the parts being very deeply seated, compared with the operation of tying the artery in the axilla. In the latter operation, the patient should be placed in the recumbent position, the arms being adducted and rotated outwards. The first incision is made, commencing about an inch behind the anterior edge of the pectoralis major, immediately opposite the head of the humerus, and about two inches or two inches and a half in length, according to the fulness of the parts. This incision should only penetrate the skin and subcutaneous cellular tissue; the aponeurosis of the arm must also be divided to an equal extent. When the skin and aponeurosis are thus divided, the anterior edges of the wound must be drawn back, to expose the coraco-brachialis muscle, and the median nerve lying on the inner side of it: the nerve being exposed, it becomes easy to recognise the axillary artery at its posterior part, and here it may be tied without difficulty, as it can be easily reached and isolated, owing to the loose character of the cellular tissue in this region. The principal point to be attended to in the operation is to clearly recognise the coraco-brachialis muscle; for if you have not this guide, either the ulnar or spiral nerves may be mistaken for the median, and the search for the artery prove ineffectual.

A patient was brought into Guy's Hospital, some years ago, who, in falling down the hold of a barge, caught his arm in a hook which was fastened to the vessel's side. The biceps muscle in the upper third of the arm was lacerated, and severe contusion inflicted on the surrounding soft parts. There was some hæmorrhage at the period of his admission, but this was easily suppressed by a ligature applied to the bleeding vessel. The wound, in the course of a few days, assumed a sloughing aspect: nitric acid lotion, with poultice, was applied, and tonics administered. This did not, however, check the sloughing, and in ten days severe secondary hæmorrhage occurred. I was immediately sent for, and proceeded at once to secure the axillary artery in the lower third of its course. This was easily effected, without removing the patient from his bed; and, in fact, he seemed to suffer more from the necessary forcible supination of the arm than from the operation. After the artery was secured, there was no further bleeding, and the patient quickly recovered.

Tying the brachial artery.—The necessity for tying the brachial artery may arise either in consequence of its being itself wounded, or from lesions of the radial or ulnar branches; although generally in the latter case it is preferable, unless there be some cogent reasons against such a mode of procedure, to apply a tourniquet to the brachial artery, to cut down upon the wounded vessel itself, and to place a ligature both above and below the point of lesion; for if the ligature be only applied above the opening in the vessel, the free anastomosis between the radial and ulnar will be liable to lead to secondary hæmorrhage.

An aneurismal varix—that is, a communication between an artery and a vein, so frequently occurs in the operation of phlebotomy, as to lead to one of the most frequent causes of applying a ligature upon the brachial artery.

An aneurismal varix may, however, arise from disease as well as from accident, and not only between the brachial artery and a vein at the bend of the elbow (usually the median basilic), but between any artery and vein lying in close proximity.

An aneurismal varix, from whatever cause it may arise, may be recognised as a blue, circumscribed, pulsating tumor, lying in the course of a large arterial trunk. Upon auscultation, a distinct whizzing noise is heard at each systole of the heart; while a less distinct whizzing sound is distinguishable in the diastole when the tumor becomes comparatively flaccid. Pressure upon the artery above the tumor stops the pulsation, and the swelling becomes flaccid, but instantaneously re-fills when the pressure is removed. The swelling may be easily emptied by direct pressure upon it; the veins below the swelling are generally enlarged and tortuous, and the circulation through the artery impeded. The tumor rarely increases much in size, seldom exceeding that of a small walnut, unless much exertion is employed, to which generally the patient has great intolerance, in consequence of the weakness of the limb, attended with more or less pain—inseparable concomitants of this condition.

The most frequent cause of aneurismal varix is the transfixing the vein and wounding the artery behind it in the operation of phlebotomy. This accident is immediately indicated by a profuse rush of arterial blood gushing per saltum through the wound. The removal of the ligature placed on the upper arm preparatory to venesection does not check the bleeding, which can be staid by compression made upon the wound by dossils of lint maintained in their position by bandages. I do not myself, however, consider this a good plan of procedure, as, in order to stop the bleeding, the bandages must be applied sufficiently tight to impede the circulation in the lower part of the limb, which causes swelling and pain, so that it is generally necessary to remove the bandage, when hæmorrhage will be certain to recur. It is better, in my opinion, to apply a graduated bandage along the whole of the arm, commencing at the ends of the fingers separately, and continuing it up to the shoulder, placing at the same time a compress upon the middle portion of the brachial artery with sufficient firmness to check, without stopping, the arterial current. Under these circumstances a tendency to coagulation of the blood is set up, and is further promoted by the patient being kept in the recumbent posture, with the arm elevated on a pillow, and kept constantly wet with cold water.

About four years ago, a young surgeon of my acquaintance, in bleeding a patient in whom the vein was immediately over the artery, opened the vessel with such precaution that a friend who was present at the operation said to him, "You'll never get half blood enough from that opening," and, taking the lancet from him, made a second puncture, upon which arterial blood gushed forth with great violence. The cautious operator immediately compressed the opening, but found it extremely difficult to prevent the flow of blood until the brachial artery was well compressed above. He then proceeded to bandage up the whole arm, commencing with the fingers separately, and filling up the bend of the elbow with lint, particularly placing a dossil of that substance over the wound, and, at the same time, placing a second compress on the middle of the brachial artery, to retard the flow of blood through that vessel. Under this treatment, the wound through the vein and artery perfectly healed, and this took place apparently without the obliteration of either vessel, as the pulsation was afterwards as distinct as is natural at the wrist, and the superficial veins retained their normal appearance. If this mode of compression fails, the communication between the artery and vein remaining permanent, the wound through the skin only having healed, an aneurismal varix is established, and will require further surgical treatment for its cure. Sir Astley Cooper, in speaking of aneurismal varix, says, "that no surgical operation is generally required in this disease, as it is not dangerous either to life or to the arm." Such may be the fact to those who have no necessity for the violent exertion of the limb; but to a poor man who has to gain his bread by his own exertions, such a limb would be totally incompetent, not only from its weakness, but from the danger arising from the tumor being exposed to external injury. There are two modes by which this abnormal condition may be removed, viz. either by tying the brachial artery in the middle of the upper arm, or by laying open the aneurismal sac, and tying the artery above and below the point of lesion. If the first operation be chosen, it may easily be effected by making an incision through the skin, two inches and a half in length, in the middle of the upper arm, on the inside of the biceps,—thus exposing the fascia of the arm, which is to be laid open to the same extent, when the biceps muscle is exposed, and is to be drawn outwards. The median nerve, brachial artery, and venæ comites, are exposed; the artery is to be separated from the nerve and veins, and, a ligature being passed around it, it may be secured in the usual manner. This operation does not, however, always succeed, in consequence of the free recurrent anastamoses between the radial, ulnar, interosseal, and inferior branches of the brachial arteries. I nevertheless believe that this operation would rarely fail if due precaution were taken to apply gentle compression on the fore-arm, as before described, in addition to the ligature applied to the brachial artery.

Should the aneurismal varix prove, however, incurable by these means, the following operation may be had recourse to; but it is certainly a far more dangerous one, in consequence of the cluster of veins and nerves which are superficially placed at the bend of the elbow, besides the close proximity of the division of the brachial into the radial and ulnar arteries.

I have myself successfully performed the following operation, as have also my colleagues, Mr. Key and Mr. Morgan. The mode of performing the operation is as follows:—A tourniquet is placed upon the brachial artery, so as completely to compress it, and free incision is then made into the aneurismal sac, and, the clot of blood being turned out, the interior of the sac cleansed by a sponge, the upper and lower opening of the artery into the sac is then to be sought for, and the end of a probe passed into the upper opening, to serve as a guide in separating the artery from the surrounding tissues; after which the vessel is to be secured. The same process is then to be repeated upon the distal end. This operation is frequently followed by constitutional irritation, and more so than the former operation, although it must be admitted that its effectiveness is far more certain.

BRONCHITIS TREATED BY INHALATIONS.

ADVANTAGE was derived in several chronic cases, from the inhalation for a few minutes, once or twice daily, of a mixture of tinct. digital. and Lugol's solution, ℥ss. of each, in a pint of water at 100° Fahr. Tobacco fumigation, *i. e.* smoking, by those not inured to it, has been directed for irritable lungs with benefit, by my father in private practice. The great attention recently given to the subject of inhalations will undoubtedly develop some new results in the management of pectoral affections.—*Dr. Hartshorne; American Journal of Medical Sciences*, January 1849.

LECTURES
ON THE
PROCESSES OF REPAIR AND REPRODUCTION AFTER INJURIES.

Delivered at the Royal College of Surgeons of England.

By JAMES PAGET,
Professor of Anatomy and Surgery to the College.

LECTURE II.

The materials provided for the repair of injuries in the human body. Division of injuries into open and subcutaneous. Modes of healing of open wounds—by immediate union—by primary adhesion—by granulations—by secondary adhesion—by scabbing. Modes of healing of subcutaneous wounds—by immediate union—by connection, mediate union, or bonds of new substance.

Part taken by extravasated blood in the healing of injuries—its frequent absence—its various disposal when present—its ejection, absorption, or organization. Coagulable lymph the general material for repair by new substance—its chemical and vital properties. Probability of the existence of two varieties of lymph, characterized by their different modes of developement into connective tissue—the one, as formed in open wounds, being developed through nucleated cells; the other, as formed in subcutaneous wounds, through nucleated blastema. Similarity of these modes to the developements of the same tissue in other instances—relations of each of them to the process of inflammation and to suppuration.

IN the present lecture, I propose to give a general account of the materials employed for the repair of some of the injuries inflicted on the human body.

I hope I do not err in thinking that the most advantageous mode of treating this subject will be to confine myself to that class of injuries which may be called visible breaches of continuity; such as wounds and fractures. For, in regard to the recovery from diseases, our knowledge of the effects of any disease seems, as yet, too imperfect for us to trace the stages by which the morbid state reverts to that which is healthy. We may be sure it is in conformity with the same general laws as those of recovery from injury, and almost sure that it is by the operation of the remaining germ-power, improving gradually the particles that in succession replace those altered by disease. But the whole details of the process have yet to be discovered.

Even within the narrower field of the repair of breaches of continuity, I must yet assign to myself a closer limit. A future lecture will be devoted to the healing of fractures; in this, therefore, I shall speak almost exclusively of the healing of divided soft parts; and I shall take as the chief and typical examples the repairs of wounds made in operations. References to the healing of other injuries may, however, be made by the way, and for collateral illustration.

Recent improvements in surgery have shown how right Mr. Hunter was, when, in the very beginning of his discussion concerning the healing of injuries, he points out, as a fundamental principle, the difference between those two forms of injuries of which one is subcutaneous, the other open to the air. He says: "The injuries done to sound parts I shall divide into two sorts, according to the effects of the accident. The *first* kind consists of those in which the injured parts do not communicate externally, as concussions of the whole body, or of particular parts, strains, bruises, and simple fractures, which form a large division. The *second* consists of those which have an external communication, comprehending wounds of all kinds, and compound fractures."* And then, he says, "The injuries of the first division, in which the parts do not communicate externally, seldom inflame; while those of the second commonly both inflame and suppurate."

In these sentences Mr. Hunter has embodied the principle on which is founded the whole practice of subcutaneous surgery; a principle of which, indeed, it seems hardly possible to exaggerate the importance. For, of the two injuries inflicted in a wound, the mechanical disturbance of the parts, and the exposure to the air of those that were covered, the exposure, if continued, is the worse. Both are apt to excite inflammation; but the exposure excites it most certainly, and in the worse form; *i. e.* in the form which most delays the process of repair, and which is most apt to endanger life. Abundant instances of this are shown in the difference between a simple and a compound fracture, though the former may have been produced by the greater violence; or, between a single fracture, even with much violence, extending into a joint, and an open wound, never so gently made into one. Or, for parallel instances, one may cite the rarity of suppurations after even extensive ecchymoses, and their general occurrence when wounds are left open.

I have lately had frequent occasion to observe these differences, in a series of experiments made for the illustration of the healing of divided muscles and tendons. Some of these were divided through open wounds, and some by subcutaneous section; and the present specimens afford a fair example of the difference of results that often ensued. In the same rabbit, the tibialis anticus and extensor longus digitorum were divided on the right side with a section through the skin; on the left, with a subcutaneous section, through a small opening. Twelve days afterwards the rabbit was killed. The wound on the left side is shown well repaired, and with comparatively little trace of inflammation; the gap on the right is closed in with a scab, and an imperfect scar, but under these is a large collection of matter, and no trace of a reparative process. The contrast is the stronger, because in all these cases there is, unavoidably, more mechanical violence inflicted in the gradual subcutaneous division than in the simple open wound. And, it must be added, that a speedy closure of the external wound made in an open section may bring the case into more favourable conditions, than those of a subcutaneous wound made with more violence. This, also, I saw in some of the experiments: a clumsy subcutaneous division of one Achilles-tendon excited great inflammation about it; while the open section of the other tendon in the same rabbit was quickly and well repaired, because the external wound had been speedily united, and had sufficiently soon converted the open into a subcutaneous injury.

Still, what Mr. Hunter said is true: subcutaneous wounds seldom inflame; open wounds generally both inflame and suppurate. It will be a principal object of this lecture to show something like an anatomical reason for this difference, in the fact that the materials produced for the repair of open wounds are not the same, or, at least, do not develope themselves in the same manner, as those for the repair of closed or subcutaneous ones.

Before speaking of the materials for repair, I must briefly state that the healing of open wounds may be accomplished by five different modes—namely, 1. By immediate union; 2. By primary adhesion; 3. By granulations; 4. By secondary adhesions, or the union of granulations; 5. By healing under a scab. The repair of subcutaneous wounds may be effected by immediate union, but is generally accomplished by connection, or the formation of bonds of union between the divided and retracted parts. Very rarely it is effected by means of granulations without suppuration.

Of these modes, which I hope to describe hereafter in detail, it is the peculiarity of the first, or process of immediate union, that it is accomplished by the mere re-union or re-joining of the divided parts, without the production or interposition of any new material. In all the others, new material is produced and organized. This process of immediate union corresponds with what Mr. Hunter called "union by the first intention." It is not the same as that which, in modern surgery, is called union by the first intention; for that is the same as Mr. Hunter named "union by adhesion," or "by the adhesive inflammation," and is effected, as he described it, by the organization of lymph interposed between two closely approximated wounded surfaces. Mr. Hunter maintained that union by the first intention is effected by means of the fibrine of the blood extravasated between the surfaces of the injured part, which fibrine, there coagulating, adheres to both the surfaces, becomes organized, and forms a vascular bond of union between them.* Doubtless, Mr. Hunter was, in this, in error; but, as the blood extravasated in wounds is not without influence on their repair, I will endeavour to state the several modes in which it may, when thus effused, be finally disposed of.

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* Works, vol. iii. p. 240.

In my last course of lectures, I stated the evidences for believing that masses of effused, or stagnant and coagulated, blood may be organized; *i. e.* may assume the characters of a tissue, and may coalesce with the adjacent parts and become vascular. Among these evidences, several cases were mentioned in which such organization of blood had been distinctly traced; they included cases of blood effused in serous sacs, especially in the arachnoid, clots in veins organizing into fibrous cords, or, after less organization, degenerating into phlebolithes, clots organizing into tumors in the heart and arteries, and the clots so organized above ligatures on arteries as to form part of the fibrous cord, by which the obliterated artery is replaced. These last cases afforded the most conclusive evidence, because they had been very carefully investigated in a series of experiments and microscopic observations, by Dr. Zwicky.† In the course of last year I had the opportunity of examining a specimen which, more fully than any other I had seen, confirmed his account of the mode in which blood-clots become organized. It supplied, too, some facts which appear to me important to the present subject.

The specimen was obtained from an insane person, by my friend Mr. Holmes Coote. A thin layer of pale blood-coloured and ruddy membrane lined the whole internal surface of the cerebral dura mater, and adhered close to it. Its colour, the existence of patches of blood-clot imbedded in it, and all its other characters, satisfactorily proved that it had been a thin clot of blood,—an example of such as are effused in apoplexy of the cerebral membranes, of such as Mr. Prescott Hewett has so fully described in his paper in the Medico-Chirurgical Transactions. Numerous small vessels could be seen passing from the dura mater into this clot-membrane, and with the microscope, while they were still full of blood, I made a sketch from which the diagram was copied. The arrangement of blood-vessels bears a close resemblance, but, perhaps, more in its irregularity than in any positive characters or plan, to that which exists in false membrane formed of organized lymph: but the vessels were, I think, generally larger.

Such were the blood-vessels of this organized clot. Its minute structure showed characters which are of peculiar interest, because of their resemblance to those observed in the material that is commonly formed in the repair of subcutaneous injuries. In the substance of what else appeared like a filamentous clot of fibrine, sprinkled over with minute molecules, the addition of acetic acid brought into view corpuscles like nuclei, or cytoblasts, very elongated, attenuated, and, in some instances, like short strips of flat fibre. Of course, such corpuscles are not to be found in any ordinary clot of fibrine; neither are they seen in any stage of the organization of such lymph as is commonly effused in inflammation; but they exactly resemble such as may be found in certain examples of rudimental cellular tissue, and (among these) in the material for the repair of subcutaneous injuries. In short, the minute structure of this clot now organized was an example of what I shall have often to refer to under the name of "nucleated blastema."

With such evidence as this of the organization of a thin layer of blood-clot, and of the developement of its fibrine being apparently identical with that of the material commonly formed for the repair of subcutaneous injuries, it was with much surprise that I found that extravasated blood can, commonly, have no share at all in the repair of injuries.

One of the best proofs of this is, that scarcely the smallest portion of blood is effused in the cases in which the largest quantity of reparative material is produced in the shortest time, and in which the healing process is most perfectly accomplished. In twenty cases in which I have lately divided the Achilles tendon in rabbits, I have only once found, in the subsequent examinations, a clot of extravasated blood in the track of the wound. In this case, I believe, the posterior tibial artery was wounded: for in all others, and in similar divisions of muscles, unless a large arterial trunk, such as the anterior tibial, were cut, the only effusion of blood was in little blotches, not in separate clots, but effused or infiltrated in the cellular tissue near the wound. In some cases there was blood-stained infiltration of the inflammatory products, but in none were there such clots as could be organized into bonds of union. In short, parts thus divided scarcely bleed: what blood does flow escapes easily through the outer wound, as the surrounding tissues collapse into the space left by the retracting parts; or, what remains is infiltrated into the tissues, and forms no separate clot.

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* Works, vol. iii. 253.

† Ueber die Thrombus; Zurich, 1846.

It is the same with fractures. In a large proportion of these, one finds no clots lying between the fragments where they are to be united, and only very small spottings of blood, like ecchymoses, in or beneath the periosteum. The abundant extravasations that commonly exist in the subcutaneous tissue are generally confined to it: they are not continued down to the periosteum or bone.

In all these cases, then, we have sufficient proof that extravasated blood is not necessary for union by the first intention, or for any other mode of repair, in the simple fact that where the repair is best, and the material for it most ample, no blood is so extravasated as to form a clot that could be organized.

But, though this may be the usual case, the question still remains—When blood is effused between wounded surfaces, and clots there, how are the clots disposed of? For often, though not generally, such clots are found in wounds, or between the ends of a broken bone, or a divided tendon when an artery by its side is cut; and in most operation-wounds, one sees blood left on them, or flowing on their surfaces, after they are done up. How, then, is this blood disposed of?

If effused in large quantity, so as to form a voluminous clot, and especially if so effused in a wound which is not perfectly excluded from the air, or if effused in even a subcutaneous injury in a person whose health is not good, it is most likely to excite inflammation; and the swelling of the wounded parts, or their commencing suppuration, will push it out of the wound. Thus we often see blood ejected.

But in more favourable circumstances it may be absorbed; and this may happen whether it have formed separate clots, or, more readily, when it is infiltrated in the tissues. What I have seen, however, in the experiments to which I have already referred, leads me to dissent from the account commonly given of the absorption of blood thus effused. The expressions generally used imply that the first thing towards the repair of such a wound is the absorption of the extravasated blood; and that then, in its place, the lymph or reparative material is effused. But this can hardly be the case; for the absorption of blood is a very slow process, and commonly requires as much time as would suffice for the complete healing of a wound, or even of a fracture. Not to mention the very slow absorption of the extravasations of blood in apoplexy, or in serous sacs, I have found the blood effused in the subcutaneous tissue and the muscles scarcely changed at the end of five weeks after a simple fracture; that in a tied artery as little changed after seven weeks; and even in common leech-bites we may sometimes find the blood-corpuscles in little ecchymoses unchanged a month after their extravasation: yet in much less time than this it is commonly implied that all the blood extravasated in an injury is cleared quite away, that lymph may occupy its place. My impression is that this opinion rests on imperfect observations. Blood is supposed to be effused in all subcutaneous injuries; and where it is not found, it is supposed to have been absorbed; the truth, rather, being that where no blood appears, none ever was.

The true method of the absorption of blood seems to be, that it is enclosed within the effused reparative material, and absorbed by the vessels of that material as its organization proceeds. The best instance in support of this that I have seen was in the case of an Achilles tendon divided subcutaneously six days before death. The reparative process had proceeded favourably, and as strong a band of union as is usual at that period was formed of the new reparative material effused between the retracted ends. On slitting open this band, I found within it a clot of blood, such as must have come from a large vessel; and this clot was completely enclosed within the new material, not closely adherent to it, nor changed as if towards organization, but rather decolorized, mottled, and so altered as clots are in apoplexy before absorption.

I believe that this case only showed in a very marked manner what usually happens with blood thus effused and not ejected; for it is quite common, after the division of tendons, to find new reparative material, if not containing distinct clots, yet blotched with the blood that was infiltrated in the tissue in which the reparative material is deposited: and even when the repair of a fracture was nearly perfect, I have still found traces of blood-corpuscles enclosed in the reparative material, and degenerating, as if in preparation for absorption.

Ejection and absorption are, doubtless, the usual means by which blood effused in injuries is disposed of; yet I feel nearly sure it may in some instances become organized and form part of the reparative material. The cases of manifest organization of blood already referred to leave no doubt of the possibility of this happening: its occurrence can no longer be set aside as a thing quite improbable. The only question is, whether the organization of blood effused in injuries has been seen. Now I think no one familiar with Hunter's works will lightly esteem any statement of his as to a matter of observation. He may have been sometimes deceived in thinking that he saw blood becoming organized in subcutaneous injuries (for subcutaneous granulations are sometimes very like partially decolorized clots); yet I believe he was more often right: for sometimes one finds clots of blood about the fractured ends of bones which have every appearance of being in process of organization. They do not look mottled, or rusty, or brownish, as extravasated blood does when it is degenerating, preparatory to its absorption; but they are uniformly decolorized to a pinkish yellow hue. They have less appearance of filamentous structure than recent clots have, and they are not grumous or friable, like old and degenerating ones, but have a peculiar toughness, compactness, and elasticity, like firm gelatine. When clots are found in this condition, I believe it is a sign that they were organizing, for this is the condition into which, commonly, the clot in a tied artery passes in its way to be fully organized; and (which is very characteristic) you may find clots in the track of wounded parts thus changing, as if towards organization, while those about them, and out of the way of the reparative process, are degenerating.

On the whole, then, I believe we may thus conclude concerning the part that blood, when it is extravasated, takes in the repair of injuries:—

1. It is neither necessary nor advantageous to any mode of healing.

2. A large clot, at all exposed to the air, irritates and is ejected.

3. In more favourable conditions the effused blood becomes enclosed in the accumulating reparative material; and while this is organizing, the blood is absorbed; and—

Lastly, it is probable that the blood may be organized and form part of the reparative material; but even in this case it probably retards the healing of the injury.

I proceed now to the consideration of the material which is produced for the repair of injuries that are not healed by the immediate union. It is that to which the general name of lymph, or coagulable lymph, is given.

Our notions concerning the properties of this substance, when once effused for the repair of injuries, are derived almost entirely from examinations of the lymph effused in acute inflammations, with which it is supposed to be identical. The identity is far from being proved, but their similarity is in many particulars evident, and especially in that both manifest, by their spontaneous coagulation, that they contain fibrine. The coagulum which is spontaneously formed in reparative material is, in microscopic characters, identical with that of fibrine: chemically, too, they appear the same; and the organization of the fibrine of the blood in the complete clot, as well as all the other circumstances which lead to the opinion that fibrine is the principal material for organization into tissues,* justifies the belief that the lymph effused for purposes of repair has fibrine for its principal constituent. However, when we speak of fibrine as the chief reparative material, we must not have in mind the pure organic compound that minute chemistry might obtain, but rather that which exists in the natural, and seemingly rough, state,—as fibrine, with some fatty matter, and some incidental saline constituents; for all these are found in all the specimens of coagulable lymph that have been examined; and doubtless they are essential, as the so-called "incidental" principles always are, to the due construction of the substance to be organized.

Regarding its vital properties, the essential character of the coagulable lymph is its tendency to develope itself,—a tendency which it has of its own properties. It thus displays itself as a plasma or blastema—a fluid to be classed with those others that manifest the capacity to assume organic structure,—such as the lymph and chyle that develope themselves to blood; the semen, which, at first fluid, *gradually* developes itself into more and more complex structures.

The natural tendency of coagulable lymph is to develope itself into the fibrous, or the common fibro-cellular or connective, tissue—the lowest form of vascular tissue, and the structure which, in nearly all cases in man, constitutes the bond by which disunited parts are again joined. This is commonly formed, whatever be the tissue upon which the lymph is placed, whether containing cellular tissue in its natural structure or not. This, therefore, we may regard as the common or general tendency of lymph; but in certain cases the development of lymph passes beyond this form, or deviates from it into another direction, in adaptation to the special necessity of the part to be repaired. Thus, for the repair of bone, the lymph may proceed a certain distance towards the developement of fibrous tissue, as if for a common healing; but this fibrous tissue may next ossify; or, not forming fibrous tissue at all, the lymph may proceed at once to the formation of a nearly perfect cartilage, and this may ossify. In general, moreover, the character of the connective tissue that is formed in repair is adapted to that of the parts that it unites. The bond for the union of a tendon is much tougher than that for a common scar in the skin; that in skin is tougher and less pliant than that in mucous membrane, and so on.

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* See especially Carpenter's Physiology, page 81, &c.

It has been thought a nice question, whether these variations in the developements of the same material—*i. e.* of the lymph—in adaptation to the purposes it has in each case to serve, be due to the assimilating influence of the parts among which it is deposited, or to a specific power, like the germ-power, which determines in each case the special result, as in embryonic developement it determines the formation of the several dissimilar organs out of similar materials. I have little doubt it is such a germ-power. In favour of this view, are all those general facts concerning the continuousness of its operation from the germ onwards, which I mentioned in my last lecture; and we may commonly observe that the developement of special structures in the reparative material takes place at considerable distances from the structures by whose assimilative force some have supposed the developement to be determined. Thus. *e. g.* in the repair of fractures, one may find, sometimes, plates of bone formed in new fibrous material external to the periosteum of the old bone; and in the formation of the tough fibrous tissue which is made for the repair of tendons, one may always notice that the developement is equal and commensurate through the whole length of the new bond of union. Such a developement cannot be determined by the contact, or even by the contiguity, of the original tendinous structure, or by anything like an assimilative force issuing from it.

But, passing by, for the present, the instances of special developement of the reparative material, in adaptation to special purposes or injuries, let me speak of its developement into fibrous, fibro-cellular, or connective tissue. I have said that, in its first production, the reparative material is like the lymph of inflamed serous membranes,—at least, no characteristic difference between them is yet known; neither are there yet any observations to show a difference in the characters of the materials effused for the repair of injuries of different parts, or in different circumstances; and yet such a difference, in even the original characters of the lymph, is indicated by the fact that in different circumstances it may proceed to the same end—the formation of fibrous tissue—by two different ways of developement. The lymph, or new material, which is produced for the repair of open wounds, generally developes itself into fibro-cellular tissue through nucleated cells; that formed for the healing of subcutaneous wounds as generally developes itself into the same tissue through the medium of nucleated blastema.

Now both these are repetitions of natural modes of developement of the same forms of tissue. In the embryo and fœtus you may trace very well the developement of subcutaneous cellular tissue through nucleated cells, and that of tendons and other *formed* fibro-cellular or fibrous tissues through nucleated blastema.

It must not appear an objection that there should be two modes of developement to the same perfect tissue; for this is usual, and has been observed in nearly all the tissues. I spoke of it last year in relation to the developement of the blood-corpuscles, of which a first set are formed from part of the embryo-cells that form the germinal area, or the whole body of the embryo, and the second set are formed exclusively from the corpuscles of lymph and chyle; and so it is with the cartilage, the muscular, and other tissues that are formed in the earliest periods of embryo-life. At first they are developed from some of the embryo-cells; yet in later life, no such cells are seen among them, but others appropriate to them, and of widely different form. So also in the bones, which at first are developed through cartilage, but in their subsequent growth are increased by ossification of fibrous tissue; and in the repair of which we shall find even more numerous modifications of these different developements.

The developement of the fibro-cellular or connective substance through nucleated cells may be observed in the material of granulations, or in that of inflammatory adhesions, whether in a serous sac or in a wound healing by primary adhesion, in inflammatory indurations, and in the naturally developed fibro-cellular tissue of at least many parts. The process is, with slight and apparently not essential modifications, the same in all, and is, I believe, almost exactly as described by Schwann.

The cells first formed are round, very slightly granular, from 1-1500th to 1-2500th of an inch in diameter; and (if not at once, yet as soon as water is added) they display a well-marked cell-wall, and a clearly defined round nucleus. Whether in granulations, or in inflammatory exudations, such cells present a striking resemblance to the white corpuscles, or lymph-corpuscles, in the blood. Indeed, the only usual difference between them is in the character of the nucleus, which, in these new-formed cells presents a well-defined dark-edged wall, and clear contents; but, in the white blood-corpuscles, appears rather as a mass of colourless, but nebulous substance, with no decided distinction of wall and contents. Such a difference may be connected with the different destinations of the nuclei; in the cells of which fibro-cellular tissue is to be formed, they take a principal share in the developement; but, in the lymph-corpuscles developing into mammalian blood-corpuscles, the mass of the nucleus is diffused into the cell-contents, and becomes uniform with them.[*]

In the developement of cellular tissue from these cells, whether in the natural structures or in those that are formed in disease or after injury, the first apparent change is in the nucleus. It becomes oval (even before the cell does), and at the same time becomes clearer, brighter, like a vesicle tensely filled with pellucid substance. One or two nucleoli now appear distinctly in it, and soon it attenuates itself; but this it does later, or in a less degree, than the cell: for a common appearance is that of elongated cells bellied-out at their middle by the nucleus.

While these changes are ensuing in the nucleus, each cell also is developing its structure; first becoming more minutely, yet more distinctly, granular or dotted, then having its cell-wall thinned, or even losing it. It elongates at one or both ends, and thus are produced a variety of lanceolate, caudate, or spindle-shaped cells, which gradually elongate and attenuate themselves towards the filamentous form. As they thus change, they also group themselves, so that, commonly, one may find the swollen part of each, at which the nucleus lies, engaged between the thinner parts of the two or more adjacent to it. Thus, the filaments into which the cells are developed are clustered or fasciculated: each cell forming, I think, usually, only one filament,[†] and long filaments being sometimes formed by the attachment of the ends of two or more, each developed from a single cell.

The final disposal of the nuclei of these cells is hard to discern. Doubtless, in many instances, they are developed into filaments, like those of elastic tissue, such as Henle has well named nucleus-fibres. But in the developement of the cellular tissue formed in inflammation or granulating wounds, the nuclei seem, rather, to waste, and be absorbed. Certainly such nucleus-fibres are not found in scars lately formed, though common in those of old standing. But although the nuclei may thus be formed for only a brief existence, yet in their time they display more organic activity than the cells,—for they take the initiative, not only in the developement of the filament, but also in the multiplication of the cells. In granulations, one may may often find large compound cells, of oval form, and as much as 1-250th of an inch in diameter, containing eight, ten, or more, nuclei. These have been derived by subdivision from the nucleus of the simple cell, and are probably destined to be the nuclei of as many separate cells; affording an instance of conformity with that same law of multiplication of cells by partition of the nucleus, which is traced as the constant method for the construction of the germ-mass in the ovum.

Such, briefly, is the process for the developement of fibro-cellular tissue through nucleated cells. Some modifications of it may be observed in certain cases—especially in regard to the proportion that the cells bear to the substance in which they lie. In some forms of granulations, and in some natural parts of the embryo, this substance is abundant; and I think it may be developed so as to take part in the formation of filaments. But none of the modifications affect the essential characters of the process.

The developement of fibro-cellular or fibrous tissue through nucleated blastema is observed in the natural developement of tendons and ligaments; and, as I have already said, in the organization of the material by which, in most cases, the bonds of connection after subcutaneous wounds are formed. It is the same which Henle[*] regards as the only mode of developement of the fibro-cellular and fibrous tissues. Schwann, on the other hand, believes that that there is no other mode than that which I have just described. My account will not appear less probable, while it shows that both these admirable anatomists are right in what they severally affirm, though, it may be, not in what they doubt or deny. Certain it is that both these modes of developement of fibro-cellular or fibrous tissue may be traced; nor can any better example be selected than in the formation of scars from granulations, and of the bonds that unite subcutaneously divided tendons.

Of the union of divided tendons I hope to speak in a future lecture. For the present purpose, and in relation to the developement of fibro-cellular or fibrous tissue from nucleated blastema, it may be enough to state, that when the first effusion of the products of the inflammation, excited by the violence of the wound, is completed, then a quantity of finely molecular or dimly-shaded substance, like homogeneous or dotted fibrine, begins to appear in the space in which the bond of union is to be formed. This substance is infiltrated in the tissue that collapses into the space between the retracted ends of the tendon. At first there is no appearance of nuclei or cytoblasts in it: it seems to be merely a blastema of fibrine; but as it acquires firmness and distinctness, the nuclei appear in it; they seem to form out of collecting clusters of granules, and presently appear as oval bodies, with dark hard outlines, soon becoming elongated, with clear contents, without nuclei, irregularly scattered, but so firmly imbedded in the blastema that, in general, they cannot be dislodged. They may be seen in very fine fragments without reagents; but, commonly, the application of acetic acid is necessary to make them distinct, by making the intermediate substance transparent, while the nuclei themselves acquire dark edges and shrivel up a little. The nuclei undergo little change, while the blastema in which they are imbedded is acquiring, more and more distinctly, the filamentous appearance, and then the filamentous structure,—only they appear to elongate, and to attenuate themselves, and to grow more irregular in their outlines as if by shrivelling.

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[*] Perhaps the similarity between these primary cells is only an evidence of the general likeness of the cells from which, after the earliest developement of the embryo, all the tissues that are developed through cells are formed. The similarity of the pus-cells to the cells for fibro-cellular tissue, and to the white blood-corpuscles, will be mentioned in a future lecture.

[†] Schwann describes each elongated cell as splitting up into several filaments. I have not seen clear indications of such a process: but it may occur in some parts in which I have not examined the developement.

[*] Allgemeine Anatomie. A similar process is described by Reichert, Zwicky, and Gerlach.

The blastema may become at length perfect fibro-cellular or fibrous tissue,—tissue not to be distinguished from that found in normal conditions. The final disposal of the nuclei is doubtless sometimes, as Henle describes it, that they are developed into the nucleus-fibres, and constitute some of the various forms in which elastic yellow tissue is found mingled with the proper white filaments. But, in the process of repair by tissue thus developed, as well as by that which is formed through cells, my impression is that the nuclei finally shrivel,—gradually contracting into little crooked or branched lines,—and at length disappearing: for, as I have already said, well-formed nucleus fibres, or such elastic yellow fibres as might be developed from them, do not generally occur in cicatrices of recent formation, or in the large bonds of union by which divided tendons are healed.

I have been thus minute in the account of these two modes of developement of fibro-cellular tissue, prevailing alike in the natural structures, and in the materials of repair, because the knowledge of them may enable us to settle some questions respecting all the modes of healing, and because it seems to point out the essential anatomical difference in the healing of open and of subcutaneous wounds, with disconnection of divided parts.

The general truth appears to be (as already stated) that the material of repair for subcutaneous wounds is developed into cellular tissue through the formation of nucleated blastema; while that for repair by primary adhesions, and by granulation, is developed into the same through nucleated cells. Now, since both these methods of developement are, as I have already said, imitations of natural methods, we might suppose that they are therefore both alike natural or healthy processes,—both alike independent of inflammation,—alike sure to pass to their purposed end, safe from disease or degeneration.

But, if we consider also the morbid conditions in which these two methods of developement of cellular or fibrous tissue occur, then we can see that the developement through cells is characteristic of inflammatory processes—at least, as far as the origin of the cells is concerned. For, of such cells, in various stages of developement, are formed not only long-suppurating granulations, but also the walls of abscesses, inflammatory infiltrations, producing succulence, indurations, and thickenings of soft parts; the lymph produced in inflammation of serous membranes, which organizes itself into false membranes.

On the other hand, the developement of cellular tissue through nucleated blastema, is, in morbid processes, observed in instances in which there are commonly no signs of inflammation,—as *e. g.* in warts and condylomata, in the simple fibro-cellular tumors of the subcutaneous tissue, in nasal polypi, in organizing clots of blood.

These instances, then, may enable us to conclude respecting the existence or non-existence of inflammation in the healing of injuries. The material of repair in union by primary adhesion and granulations is the same, in appearance and mode of developement, as we find produced in other conditions which all are agreed to call inflammatory. But, in the healing of subcutaneous wounds, we find a different material of repair, which resembles, in both appearance and mode of developement, that which we find forming growths whose production is not attended with any signs of inflammation. On these grounds, therefore,—and they are corroborated by the appearances of the injured parts during the process of healing,—we are justified in holding, generally, that inflammation ensues in the healing by adhesion and by granulations, but does not exist in the healing of subcutaneous wounds.

I shall again have occasion to consider the relation between the healing processes, and that of inflammation. I will now only briefly say, that, although inflammation may be deemed necessary for the production of the lymph that may form adhesions or granulations, yet we have no evidence that the continuance of inflammation is necessary for the organization of the lymph. Rather, the persistence of inflammation seems to hinder the organization of the lymph, to keep it in a low state of developement, or to favour its degeneration. Thus, to name but one example, granulations over an irritating body suppurate abundantly, and remain for years unhealed;—that is, they are imperfectly organized; they stop short of their developement into the cellular tissue and cuticle proper to cicatrices, or degenerate into pus.*

I may also add, that, although I have described the two modes of developement of fibro-cellular or fibrous tissue for the healing of wounds as if they were always as separate as they are distinct, yet they may coexist, and probably often do so. In the repair of many wounds, the two materials—namely, that which is to be developed through nucleated cells, and that whose progress is to be through nucleated blastema—may be mixed. Thus, in subcutaneous wounds and injuries—as, for example, in the case of divided tendons,—the first consequence of the mechanical violence is the effusion of a common inflammatory product, which makes the cellular tissue œdematous, and organizes itself into nucleated cells. Thus you find the space between the retracted parts for about two days. But, then, the more proper and purer material of repair is produced; and this, increasing in an inverse proportion to the degree of inflammation, soon overwhelms the former product of inflammation, and is developed into the nucleated blastema. Still, for many days, traces of the inflammatory product may be discerned mingled with the blastema, confusing its appearance, but, I believe, finally organizing with it into the bond of union. So, in divided muscles, and in simple fractures, the inflammatory exudation, produced in consequence of the first violence, appears to mingle and develope itself with the more proper material of repair; but they bear an inverse proportion to one another, and the more manifest the signs of inflammation, the less is the quantity of the proper reparative material, and the slower, in the end, the process of repair.

On the other hand, I think that in the ordinary healing of open wounds, which are soon brought together by sutures, or other appropriate means, there may be less than the commonly observed formation of nucleated cells, and some of the reparative material may be developed through the nucleated blastema. Or, when the different materials are not mingled at the same spot, yet, in one wound, different parts may be healed by the organization of one or other material, according to the degree of inflammation that is in each part present during the production of the lymph. But all these things need further inquiry.

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* In thus considering inflammation as necessary to the production of such lymph as may form adhesions or granulations, but as injurious to its organization or further developement, we may perhaps reconcile two completely opposite views on this point. The expressions generally used imply that inflammation is commonly considered to exist through the whole process of adhesion,—in, for example, a serous cavity. Dr. Macartney (Treatise on Inflammation, p. 37), maintains, on the contrary, that the formation of such adhesions is not at all an effect of inflammation. The one opinion seems to make the inflammatory process of too much avail; the other, of too little.

Original Communications.

ON SOME OF THE

MORE PRACTICAL POINTS

CONNECTED WITH THE

TREATMENT OF DEFORMITIES.

By Edward F. Lonsdale,
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I purpose in the following short papers to give the result of my own experience in the treatment of the various kinds of deformities that have come under my notice during the last five years, both at the Orthopædic Hospital and in private practice. I have chosen the period of five years, it being the one during which I have held the appointment of one of the medical officers at the above institution, and have paid much attention to the subject, having had ample opportunities of becoming acquainted with, I believe, every kind of deformity included under the name of orthopædic surgery.

In giving the result of my experience, I shall endeavour strictly to adhere to practical points; to state candidly and fairly the amount of benefit that can be derived from the treatment that I have employed myself, or have seen employed by others; to define as closely as possible the different degrees of severity presented by the various kinds of deformities, and how far they may influence the success or non-success of the treatment to be adopted; for although so much can now be done in this branch of surgery, success does not attend every case; for many can only be partially relieved, while others are altogether incurable. On the other hand, however, I can safely say that by far the majority of cases can be so much improved as to restore the part or limb to nearly its natural condition, while many can be completely cured; if not in respect to the perfect use of the joint being regained, certainly they may be so far as the removal of all appearance of deformity is concerned, —a great point to be obtained, when we consider how frightful an appearance many of these distortions present, and how much they interfere both with the habits and occupations, as well as with the moral feelings and happiness, of those who are unfortunately afflicted with them.

I shall not enter upon the history of the treatment of deformities, nor into abstract points with regard to their nature and causes. This has already been done by those authors who have written specially on the subject, both at home and abroad.* I shall confine myself principally to the symptoms that distinguish the different kinds from each other, pointing them out as important diagnostic marks, to guide the surgeon in the opinion he may be called upon to give as to the future result of the treatment he may have to employ. There is no class of cases in which so decided an opinion can be given as to the amount of relief to be obtained as in the various kinds of deformities;—I of course mean, by those who have had opportunities of seeing a large number of cases, to enable them by long observation and extensive experience to say with confidence "so much can be done for one case, and so much for another." In all cases, either in medicine or surgery, opinions, to be of any value as to authority, must be founded on great experience, and in none, I am convinced, is it more essential than in the class of which I am now speaking. I may say this without the slightest intention of underrating the value of the opinions of surgeons generally, but as a fact which I myself can vouch for from experience, and from finding my own opinions altered in many respects now from those I held when I first practised at the hospital to which I belong. Many points (though apparently trifling) strike the eye of one who has had the care of a large number of cases, which may be of so much importance that the result of the treatment may depend upon their being observed at the time: a confident opinion may have been given as to a certain cure being obtained, whereas the nature of the case was such that a qualified one was required, the result being a doubtful one; by giving which both the disappointment of the patient and the reputation of the surgeon might have been saved: for what disappointment can be so great as that, where a person afflicted either from birth or for many years with some frightful deformity, is told with confidence that if he will make up his mind to submit to a tedious and irksome plan of treatment, which may confine him to the house for six months, and perhaps twelve, his deformity can be removed, and at the end of which time he finds himself little better off than before? On the other hand, suppose the opposite case: a person afflicted with some deformity interfering with his walking, applies to one or many surgeons: they all tell him nothing can be done, but that he must make up his mind to be a cripple for life, and recommend him to some instrument-maker, who either does him some good or more harm, according to the amount of skill and ingenuity he may possess. After submitting to this plan for some years, the person is fortunate enough to meet with some one who has either cured or seen cured a similar case: he is then put under the same treatment, and ultimately recovers with a useful limb for the rest of his life. Must not such a person regret the many years of his life he has been obliged to pass as a cripple, when he might have been relieved years before?

In the preceding remarks I may have been thought to express a degree of uncertainty with regard to the treatment of deformities dependent upon a want of knowledge by surgeons generally of this class of cases. I believe

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* The two most practical works are certainly Dr. Little's and Mr. Tamplin's: the former "On Club-foot and analogous Distortions;" the latter "A Course of Lectures on Deformities." I also take this opportunity of acknowledging the great obligations I have been under to my colleague Mr. Tamplin, on my first connection with the hospital, by having the advantage of his experience.

I am right in expressing this doubt, and for this simple reason—namely, that at present the treatment essential to perform as perfect a cure as possible is not generally known, and is seldom watched for a sufficient length of time afterwards to form a fair opinion of the result, even by those who have opportunities of treating a case here and there at hospitals or in private practice; for it is not one, two, or half a dozen cases of club feet that will give a surgeon that amount of experience to enable him with confidence to say how much relief can be given, and to lay down the precise plan of treatment that ought to be adopted; for although the division of the contracted tendons is an essential part as a preliminary step in the treatment, and one that may be performed with more or less skill and neatness by any surgeon, still it after all is the part of least importance, with regard to the amount of experience that is required in the after-treatment; for I will suppose a surgeon to divide the posterior and anterior tibial muscles as skilfully as might be wished, and the tendo Achillis also; he may yet be so puzzled in the after-treatment, that at the end of five or six months the deformity, although relieved, may still exist to such an extent that the foot, so far as supporting the weight of the body is concerned, is as useless as ever;—the real explanation of which is, that many important points have been overlooked in the mechanical treatment, the proper adaptation of which is all in all to ensure success.

There is no mystery in the treatment of deformities: the rules are as plain and simple, and the laws of physiology and pathology just the same, as in all other cases of surgery, but the knowledge with regard to them has not yet generally been attained. Surgeons have not paid sufficient attention to enable them to say they have experience in these as in other cases that come under their notice. That this is true I can speak with confidence, from the experience I have had during the last five years, both of the success and non-success of cases that have been under my own care, as well as that of others; and I am also convinced that, until surgeons will take the pains to watch with care and attention a very large number of cases, they will not be in a position to give an opinion with confidence, nor to undertake the treatment of the many different kinds of deformities which are met with, and for which so much can now be done.

Before entering into the description of the nature, symptoms, and treatment of the many different kinds of deformities, I shall attempt a classification of them, in order to facilitate as much as possible both the formation of a correct diagnosis, as well as the opinion it may be necessary to give as to the result of the case, or prognosis after treatment.

The materials I have to work upon, I think, will be allowed to be sufficiently ample, when I state that I have the register of upwards of 8000 cases to refer to in the books of the hospital, more than 7000 of which I have carefully analysed, and which afford sufficient information to admit of a very useful table being formed.

The plan I shall adopt in classifying the various kinds of deformities, is, I think, the simplest one, though in this, as in most classifications, difficulties arise as to the ability of including all the varieties under heads or divisions that shall embrace every particular kind of case. The arrangement I shall follow, I shall briefly describe.

I. *Deformities of the bones simply.*

II. *Deformities of the bones, with weakness, and altered positions of the joints.*

III. *Simple weakness of the joints from relaxation of the ligaments, unaccompanied with deformity of the bones.*

IV. *Deformities of the feet and ankle joints, including all the varieties of club feet.*

V. *Contractions of other joints, hip, knee, elbow, wrist, toes, fingers, &c., from diseases of various kinds.*

VI. *Deformities from injuries of various kinds.*

VII. *Deformities and diseases of the spine.*

This arrangement will, I think, include all the various kinds of deformities. Each division, however, will admit of being subdivided into others, so as to make it more complete and comprehensive. Thus, for example, under the head of club feet, there are numerous varieties,—such as congenital and non-congenital,—some depending on partial paralysis, others on spasm, independently of the many kinds of club feet, which are named according to the particular shape and form the deformity may take, all of which it is of the highest importance to distinguish from each other, in order to form a correct opinion as to the result that is to be expected from the treatment it may be proper to adopt.

I have drawn up a table in conformity with the above arrangement: it comprises 7533 cases taken from the hospital books, 315 of which were in-patients: the remaining 7218 out-patients. In forming the table, I shall not separate the two, but consider them numerically together, the deformities being the same, only differing in severity, or in the patients being of such an age as to preclude their being brought backward and forward to the hospital after the performance of the operation. Thus, the various kinds of club feet in infants are generally treated as out-patients; and some kinds in children, such as talipes equinus, and in adults also, where the treatment is comparatively simple; but severe cases of varus, contraction of the knees, &c., are always treated as in-patients.

I shall now give an analysis of the cases, and confine the remainder of the remarks I shall make in this paper, to some general practical points in the nature and treatment of the different varieties.

Table showing the analysis of 7533 cases of Deformity, admitted as patients at the Royal Orthopædic Hospital, Bloomsbury Square.

Simple curvature of the bones of the leg, called outward curvature of the tibia, sometimes with, but more frequently without, curvature of the femur; no deformity of the joints	..	1604
Simple weakness of the knee-joints or knock-knees, called genu valga, unaccompanied with curvature of the bones of the leg or thigh	..	1843
Knock-knees, with curvature of the bones of legs, sometimes of the thigh also, in a direction outwards	635	883
Knock-knees, with curvature forwards	203	
Ditto, with curvature inwards also	45	
Genu introrsum et extrorsum, one knee turned out, the other turned in	..	109
Various forms of Club Feet.		
1st. Talipes varus, affecting both feet, or one only, (inversion of the feet)	583	1218
2nd. Talipes valgus, or flat foot, with eversion	151	
3rd. Talipes equinus, or horse foot; toes pointed downwards—the heel raised	226	
4th. Talipes calcaneus; toes pointed upwards—heel downwards	50	
5th. Talipes equino-varus; foot partially turned inwards, with raised heel	112	
6th. Talipes equino valgus; flat foot, with raised heel or contracted tendo-achillis, and eversion of the foot	40	
7th. Other compound varieties, such as calcaneo valgus, talipes varus et valgus of opposite feet, &c.	56	
Contracted joints—hip, elbow, knee, wrist, fingers, and toes—from inflammatory diseases or injuries; wry neck, &c.	..	634
Nervous affections of one or both sides, including spasm, paralysis, or general weakness	..	138
Injuries of bones and joints from fractures; diseases of ditto; contraction from burns, &c.	..	89
Lateral curvature of the spine	401	999
Posterior curvature of ditto	121	
Lateral and posterior curvature, ditto	33	
Angular curvature of ditto	444	
Malformation of toes, fingers, &c.	..	16
Total		7533

There are many points of great interest in the table I have just given. First, with regard to simple weakness of the bones and joints, it may exist to a great extent independently in one or the other, and in the larger number of cases it does so. Thus there are sixteen hundred and four cases of curvature of the bones of the lower extremities, and eighteen hundred and forty-three cases of weakness of the ligaments of the knee-joints, without any deformity of the bones; while deformities of the knees and bones together, including the various kinds of curvature of the legs and thighs, amount to about half—namely, eight hundred and eighty-three. The explanation of this difference I believe to be the following—namely, that the simple weakness of knees, and the curvature of the bones by themselves, are, in the majority of cases, dependent more upon local causes than the cases where the two are combined: in the latter there is generally a disposition to rickets, as shewn by the enlargement of the epiphyses of most of the bones of the upper as well as of the lower extremities, and often accompanied with increased development of the bones of the cranium. The children are also generally of a pale, sallow complexion, and with weak flabbly muscles; in fact, the whole system shows signs of debility, and want of proper development. On the other hand, by far the majority of cases of knock knees, and of simple curvature of the bones of the leg outwards, occur in children who appear to be otherwise in good health. It is not at all uncommon to see a fine fat healthy-looking child, with either weakness of the ligaments of the knees, or with outward curvature of the tibiæ, without any constitutional disturbance. The affection puts on the form more of a local complaint, depending upon the mechanical weight of the body, acting in some cases upon the bones of the leg, and so increasing their natural curve; and in others upon the ligaments of the knees, owing to there being an inclination inwards when the child first begins to walk. The weight of the body in these cases may be quite sufficient to increase the deformity, without there being any constitutional debility showing itself generally in the system, or ocally in the other bones or joints.

The remarks I have just made, refer, as I have stated, to either curvature outwards of the bones of the leg, or to simple weakness of the knees (the bones being straight). If the two are combined,—that is to say, if the tibiæ are curved, no matter in what direction, either outwards or forwards, or both, (which is very common), combined with knock-knees, or with curvature of the thigh-bones at the same time, it will be found that the children generally present a sickly appearance, and have a tendency more or less to rickets,—by which I mean a softened condition of the bones generally, from want of proper development—a condition which may exist without running into confirmed rickets.

Most of the curvatures of the bones, whether depending on rickets or not, commence in early childhood, and many can be traced to have had their origin during the time dentition commenced: and this is given by the parents as a cause of the deformity, whereas the backward dentition is merely a symptom or indication of the general debility or want of power in the development of the osseous system generally. The teeth do not grow from the same cause that the bones bend—namely, the deficiency of the ossific growth in the whole skeleton. The cause of this is not so easy to explain; I believe, however, that in most of the children in whom there is this tendency to rickets they will be found to be either thin or emaciated when born, to have been either weaned very early, and if suckled by the mother that the mother has had little or no milk, or at any rate not sufficient, either in quality or quantity, to afford sufficient nourishment for the proper development and growth of the bones or any other part of the body. There are other causes, however, affecting the growth of children—namely, bad air, bad and insufficient clothing, combined with bad food: examples of these being causes of weakness in the bones and joints, are daily seen amongst the lower classes; I have met with cases, however, in private practice, amongst the better classes, where the mothers have continued to suckle their children, having but little milk, and this of the poorest kind; and I believe that in the majority of these cases the children will grow up with weak bones and joints. There does not exist the least doubt in my own mind of the absolute necessity of providing a wet nurse in all cases where the mother's milk is poor and deficient in quantity, if the future constitution of the child has to be cared for; unfortunately, however, this substitute cannot be obtained by far the majority of those who are in a situation to require it. The great distinction, I think, between the rachitic deformities of the bones and joints, and that of simple bowing outwards of the legs, or weakness of the knees, is, that the former shows itself at the very earliest periods of infancy, even before the period of weaning the child has arrived, while the latter may begin at the age of one, two, or three years, or even later. I believe that all the cases of rickets, if watched from their commencement, would have shown symptoms of this peculiarity of constitution existing before the termination of the first twelvemonth, and that in all dentition will have been very late in commencing.

Simple knock-knees, or curvature of the bones only, may commence after various kinds of illness; such as measles, hooping-cough, inflammation of the lungs, &c. &c. The former cases, namely, the in-knees, may be, I think, explained in the following manner:—after any serious illness, the whole muscular system becomes much enfeebled, and this weakness is observed more in the lower than upper extremities, owing to the former having to support the weight of the body in the erect position, and the greatest feebleness is felt in the knees owing to the call that is made upon the extensors; the slightest bend of the knees then places them in a position to be more acted upon by the flexors, and the stronger muscle on the outer side, or rather the one more favourably placed, namely, the biceps flexor cruris, by its insertion into the fibula, tends to draw the leg outwards, or to separate the inner condyle from the head of the tibia, which is favoured also by the natural oblique position of the femur, and also by some relaxed condition of the internal lateral ligament of the knee joint; one, or more, or all of which causes may be sufficient to commence the deformity, which may afterwards go on increasing by the weight of the body simply, the mechanical pressure of which tells obliquely instead of perpendicularly on the joints.

On referring to the table, there will be found to be a hundred and nine cases of in-knee of one leg, with outward inclination of the other: this is called genu introrsum et extrorsum. The peculiarity of this kind of deformity is, that it causes the person to walk rather sideways; for owing to the position of the two knees fitting one into the other, there is great difficulty in bringing one leg forwards before the other with the body placed as in usual progession.

The knock-knee or genu valgum generally commences first, and if the other does not turn inwards at the same time, it takes an outward inclination, and is always accompanied with more or less curvature of the tibia outwards at the same time, which also increases the outward curve of the knee. In many cases the outward curvature of the tibia is so great, and accompanied with curvature of the femur also, that when the leg affected with the knock-knee is straightened the other remains two inches shorter, and sometimes more; this difference depending on the bones of the one leg being straight, while the other remains curved. It often occurs where there is a tendency to rickets or scrofula in the constitution. The treatment is capable of doing much for the in-knee, but very little for the other or curved leg, if the patient have much passed the age of childhood, the difficulty being to overcome the curve in the bones.

I shall next make a few general remarks on the different varieties of club-feet: out of the twelve hundred and eighteen cases put down in the table I have drawn up, nearly one half are cases of talipes varus; the next in frequency is the talipes equinus; the next, talipes valgus; and then talipes equino varus; the other forms being comparatively few in number.

Talipes varus consists in inversion of the foot or feet, and it is more frequently in both feet than in one only. In by far the majority of cases it is congenital. Talipes varus may exist to any amount of severity, from the slightest inclination of the toes and bones of the tarsus, with scarcely any contraction of the tendons, to those of the most rigid deformities, where the bones are wedged and forcibly driven into close contact with each other, so as to make the measurement of the foot shorter than natural, both in its transverse and long diameter. The contraction is at first merely muscular, and may exist to a very marked extent even in infants: but when the child begins to walk, and to bear the weight of the body on the edge of the foot, the deformity is then increased mechanically, and the bones become wedged against one another by the pressure made upon them.

The *non-congenital* cases of talipes varus may commence at any period of early life, and depend upon loss of power, either partial or complete, of the antagonist muscles to those which keep the ankle joints in the flexed, and the toes in the extended position. The cases of paralytic talipes varus never assume the same form precisely as those which are congenital; the reason of which is that the foot is not kept in the position which enables the weight of the body to act mechanically upon it, in the manner in which it is when all the muscles are in strong power: in this latter case, the person places the foot in a position purposely to support the weight of the body, while in the former he is unable to do so, but lets the foot fall as it were into the position it first takes when it is placed upon the ground. That the weight of the body never bears much in these cases, is seen by the small increased thickness of that part of the foot which comes in contact with the ground; whereas, in the congenital, there is generally a large thick cushion of fat, and hardened cuticle opposite the point of pressure, which becomes a marked feature in the appearance of the foot, and is almost by itself sufficient to indicate the nature of the origin of the deformity. There is another reason also why these paralytic cases of club-foot never assume the shape of the wedged conditions of the bones—namely, the want of action in the muscles themselves; for it is now proved beyond a doubt that the principle muscles which originally cause the talipes varus (congenital) are the anterior and posterior tibial, also the flexor digitorum communis, and the gastrocnemius and soleus. Now, these muscles, even if not paralysed, never act with the same vigour and power when the antagonist muscles, namely, the peronei and extensor largus, are paralysed, so that, though their continued action is sufficient to displace the foot generally, they have little power over the individual bones. The question of the cause of the talipes varus congenitus I shall enter upon hereafter.

Talipes valgus may be congenital or non-congenital; it is, however, more frequently the latter. The nature of the deformity is essentially the opposite to the last (Talipes varus.) In talipes valgus the arch of the foot is flattened; the bones of the tarsus and metatarsus are spread out, instead of being wedged against each other, and the deformity is produced by the opposite set of muscles—viz., the peronei and long extensors of the toes. The tendo-achillis is generally shortened, so as to prevent the foot bending beyond the right angle, and oftentimes to a more marked extent, producing the deformity called *Talipes equino valgus.* The ligaments in these cases are often more at fault than the muscles, for it is greatly owing to their relaxed condition that the bones are not kept in their natural position; the weight of the body may then be sufficient to flatten the arch of the foot, and to spread out all the bones, without the muscles taking any part in the production of the deformity. Many cases of talipes valgus, however, depend upon the two causes, viz. the inordinate contraction of the muscles, and the relaxed condition of the ligaments connecting the bones of the tarsus and metatarsus together: the deformity is then more decidedly marked, and requires a more lengthened treatment for its cure.

The next deformity in frequency is the *talipes equinus*, or horse foot, the simple form of which consists in the elevation of the heel, causing the toes to be pointed downwards; in severe cases the arch of the foot also becomes increased when the weight of the body is borne principally in the extremity of the metatarsal bones, the phalanges of the toes being drawn up upon the dorsum of the foot by the extensor communis, and the extensor longus of the great toe. In these cases the deformity is very often, though not always, spasmodic when it commences; but after a while the foot remains in position as a permanent contraction.

Talipes equinus may depend, and often does, upon paralysis of the anterior muscles of the leg; the heel is then drawn upwards by the action of the muscles of the calf, without any alteration in the position of the bones of the metatarsus or phalanges, for the patient has no power to bear the weight on the foot; consequently, the bones never become displaced. Talipes equinus is never congenital.

Talipes calcaneus is the opposite deformity to talipes equinus; it essentially consists in a dropping of the heel, and may be congenital or non-congenital. When congenital it appears to depend upon position in utero; when non-congenital, it always depends on paralysis of the gastrocnemei and soleus muscles; the os calcis then drops, and the anterior part of the foot points upwards. The plantar fascia is often shortened to a great extent, which prevents the arch of the foot being lengthened in its long diameter when the sole is placed upon the ground. In talipes calcaneus the patient walks more upon the heel: in talipes equinus he walks upon the toes.

The other varieties of club foot, of which there are many, consist in compound modifications of the forms I have just been describing, viz. the talipes varus, talipes valgus, talipes equinus, and talipes calcaneus. Some of the principal varieties are, the talipes equino varus, talipes equino valgus, talipes calcaneo valgus. I have never seen a case of calcaneo varus, to have any form of varus, the tendo-achillis must be contracted, which of course it is not in the form of talipes calcaneus. The two feet may also be affected with different forms of talipes: thus there may be varus of one foot and valgus of the other, all of which, with many other peculiarities, I shall refer to when specially describing each kind of deformity.

The other joints of the body, such as the hip, knee, elbow, fingers, &c., may be, and often are, affected with various degrees of contraction. In the table there are 634 cases put down: the number includes contraction of the hip and knees, which deformities occur very nearly in equal numbers in the hospital books, the difference being, that the majority of the contractions of the knees are treated as in patients, while those of the hip are treated as out-patients, owing to the majority of the latter cases being young children. The causes of most of them can be traced to inflammatory affections of the joints, either scrofulous or rheumatic: cases of spasmodic contraction of the hip or knee are comparatively rare. The shoulder and elbow are also liable to be affected with contraction or stiffness, the stiffness depending either upon true anchylosis, or upon a thickened condition of the membranes and ligaments with partial adhesions.

The spinal column is affected by *four* principal kinds of deformities—namely, *lateral curvature*, *posterior curvature*, *lateral and posterior*, and the *angular*; they amount altogether to 999 in the table I have drawn up. Of this number, the angular curvature is in the majority, viz., there being 444 cases, while of the lateral there are 401, of the posterior 121, and the remaining 33 lateral and posterior combined. The large number of cases of angular curvature is easily explained by the class of patients in whom it occurs being generally of the poorest kind, or, if not poor, of a scrofulous constitution. The angular curvature is attended with either a softened condition of the vertebræ and intervertebral substance, or with actual ulcerative disease in the one or the other, or in both. The marked feature is the projection of one or more of the spinous processes of the vertebræ.

The *lateral curvature* of the spine is found principally in young women, and can, in the majority of cases, be traced to some peculiar habit or occupation, which has been continued a sufficient length of time to throw the vertebral column out of the perpendicular line; the curvature then rapidly increases, with other alterations in the shape of the thorax, &c., to be described hereafter.

The *posterior* is very common in very young children, more particularly infants: it consists in a general bend forwards of the whole spine, accompanied with a corresponding projection posteriorly: it principally depends upon weakness of the ligamentous structure of the spine, without there being any disease existing, as is the case in the angular curvatures: the bones, however, may be softened, owing to the system generally being in a weak condition, and will, if the child do not recover strength, become compressed in their anterior part,—either the bones only, or else combined with that of the intervertebral substance as well.

The *lateral and posterior curvature*, when combined, is almost always, I believe, dependent upon some constitutional cause,—either rickets or debility from scrofula: one peculiarity of it is, that it occurs very frequently in the male subject, as well as in the female;

whereas the simple lateral is very rare in the former. It also often occurs in the left side, throwing the spine over to the opposite side to that of the simple lateral. It is the most difficult form of curvature to treat.

The malformations that have presented themselves at the hospital have, in the majority of cases, been either arrest of development in the upper or lower extremities, or with an extension of it in the production of an increased number of fingers or toes, the most common of which I shall speak of after describing the deformities produced by injuries.

Having made these general remarks, I shall proceed in my next paper to consider more particularly the special kinds of deformities, beginning with those of the bones.

[To be continued.]

CONTRIBUTIONS TO PATHOLOGY.

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[Continued from page 892.]

Series III.—Lesions of the Abdominal Viscera — Principally of the Liver and Kidneys.

Case XLI.—*Chronic colonitis and pleuritis.*

A. H., male, æt. 33, had been in hospital five months previous to death, complaining of dull pains in the two hypochondria, which felt slightly tumid, and a little more painful on pressure. He was afflicted with intermittent diarrhœa, which at first yielded to medicines, but latterly became uncontrollable, and attended with dysenteric tenesmus and muco-sanguinolent stools, having a putrescent fetor. Emaciation became great, and he sank gradually the 7th November, 1844.

Insp. cad.—Corpse extremely wasted and shrunk.

Chest.—Lungs completely filled the cavities, and were adherent almost everywhere by white, tender, and cellular bands to the costal pleuræ, with four to six ounces of serum in each sac.

Pericardium.—Large, dense, white, but smooth.

Heart.—Seemed shrunk, was irregular in form, covered with white fibrous streaks, and fringed with many cells of serum. Walls firm and thick; valves right; no blood almost in either ventricle; large vessels empty; blood scarce throughout the body; no tubercles nor hepatization in the lungs.

Liver.—Natural in form and bulk, but red, fleshy, and congested; much mottled, and punctuated by fibrinous deposits round the portal vessels, and by granules throughout.

Gall bladder. — Half full of thin yellow bile.

Spleen.—Large and fleshy, very like the liver, having also many lymphous granules, buff-coloured, and sub-spherical, disseminated throughout.

Pancreas.— Large, sub-livid externally, and buff-coloured internally; hypertrophied.

Kidneys.—Left enlarged and elongated, with much granular degeneration: the right more orbicular and less degenerated.

Stomach.—Natural; coats firm and thick.

Small intestines.—Normal, smooth, and semi-transparent, with a few ecchymosed spots towards the lower end of the ileum.

Cæcum.—Mucous coat softened, irregular, and rugose in some parts, with slight phlogosis.

Colon and rectum.—The whole tube to the anus empty; coats thickened, with the inner surfaces beset with a rugose and mammillated condition, and much vascularity. The mucous coat seemed hypertrophied, and the mammillæ were studded on their apices with ulcerated pits, having a ragged base; while between these elevated patches were many excavated ulcers of a circular form, from the diameter of a pea to that of a sixpence, having the submucous tissue for a base. Muscular coat nowhere bare, nor any gangrene observed.

Case XLII.—*Granular kidneys—Pneumonia.*

J. S., male, æt. 45: died 21st May, 1845.

Insp. cad.—No history, except that an old ulcer on the leg had lately been dried up. No œdema.

Lungs.—Double pneumonia in the second stage; dull crepitation when handled; a few purulent dots exuded on section, and one crude tubercle in the left upper lobe.

Heart.—Large, slightly hypertrophied; valves normal.

Liver.—Weight, 3 lbs. 1 oz.; firm, normal in texture; hepato-venous system hyperæmiated; not a trace of fat.

Gall-bladder.—Half full of normal bile.

Spleen.—Large; dark red.

Kidneys.—Greatly transmuted into granular disease; cones nearly obliterated; infundibula large; their capsular surfaces very irregular, and they were altogether atrophied.

Stomach and intestines.—Their mucous coats much softened, with capillary hyperæmia in many parts, and a few follicular ulcers in the lower ileum.

CASE XLIII.—*Granulated kidneys—Asthenic pneumonia.*

H. W., female, æt. 45; passed albuminous urine: died 8th June, 1845.

Insp. cad.—Corpse tall; good *embonpoint;* scrofulous sores and cicatrices on the right leg; much fat in the subcutaneous tissue.

Lungs.—Old adhesive bands in both cavities; no effusion; hyperæmia and congestion in the left; and in the right, asthenic pneumonia in the second stage; little appearance of pus, nor of mucus; no tubercles.

Heart.—Natural, but small.

Kidneys.—General albuminosis or degeneration; cones obliterated, and both organs more or less atrophied.

Spleen.—Very large, dark purple, soft, and friable.

Liver.—Weight, 4 lbs. 1 oz.; rather easily torn into striæ; very bloody; acini hypertrophied. The viscus slightly mammillated at the edges; no fat cells seen by the microscope, but plenty of the normal cells.

CASE XLIV.—*Granular kidneys—hydrops.*

J. R., male, æt. 38: died 28th Oct. 1845.

Insp. cad.—*Chest:* effusion into both pleural sacs, and particularly into the right, which contained about two pints.

Lungs.—Deeply engorged with blood, and partly emphysematous.

Pericardium.—Effusion to 4 oz.

Heart.—Large; right ventricle and auricle hypertrophied.

Abdomen.—Effusion into the cavity.

Liver.—Small; weight only 2¼ lbs.; of the nutmeg character.

Spleen.—Normal, but congested.

Kidneys.—Deeply congested and granular; tunics too adherent; some apoplectic spots in one, and some urinous bullæ in the other.

CASE XLV.—*Hypertrophied and granulated liver—Morbus vesicæ.*

J. M., male, æt. 40: was three months in hospital with scrofulous knee-joint, and severe hæmaturia: died 24th January, 1846.

Insp. cad.—Corpse emaciated; tall and sallow.

Lungs.—Free from tubercles, but showing vestiges of old pneumonia, as well as adhesions and puckered pleura; recent asthenic pneumonia in the left lung.

Heart.—Concentric hypertrophy; valves normal.

Liver.—Weight, 7 lbs. 2 oz.; enlarged in all directions; capsule dense and thickened in some places; colour, dark-brown, and, on section, mottled with orange and yellow granules: it was firm, elastic, and fleshy, to the touch; its vessels were large, dense in their coats, and plentiful; the granular deposit quite universal,—having all the characters of the granulated liver of Hope. By the microscope: a great development of biliary cells; few or no fat ovules,—by boiling, a mere trace.

Gall-bladder.—Normal.

Spleen.—Weight, 3 lbs.; dark purple, soft, and quite friable to the fingers.

Kidneys.—Dark mottled: on section, a large ulcerous cavity in the right; in both, much yellow deposit, seemingly of a tuberculous nature.

Bladder.—Its coats thickened, and the interior surface studded over with buff yellow granulations.

Intestines.—Not examined.

CASE XLVI.—*Cirrhosis of the liver—Granulated kidney.*

R. S., male, æt. 35: was in hospital two months with cynanche, aphonia, ascites. No previous history. He died 29th January, 1846.

Insp. cad.—Corpse tall, well formed, not much emaciated.

Tonsils and velum, as well as the uvula, turgid and livid, with diffuse patches of ulceration.

Larynx.—Normal, but very livid.

Trachea.—Free from lesion, but soft and reddened.

Chest.—Much fluid in both pleural sacs, and also in the pericardium.

Lungs.—Firmly and generally adherent; livid, subcrepitous, and infiltrated with serum, but without tubercle or induration.

Heart.—Normal.

Liver.—Weight 3 lbs. 2¼ oz.; right lobe livid, with the serous coat dense and thickened, without unusual adhesion; it was slightly puckered and uneven. The left lobe pale-buff, and much puckered and papillated. The parenchyma firm, pale buff; biliary cells much developed; portal venous system anæmiated; distinct granulations observed. By the microscope, some fat ovules in clusters appeared. Analysis only gave two grains to the ounce.

Spleen.—Large, but normal in structure.

Kidneys.—Small, mottled, uneven; the capsule adherent. Granular albuminosis in the second stage, with dark mottling of the pyramids; some small cysts in the cortical part, with vascular areolæ. By the microscope, some oil ovules, and the tubuli appeared obliterated by granular cells. Analysis only gave one per cent. of fat.

Stomach and intestines.—Natural exteriorly. About a gallon of fluid was in the abdominal cavity.

CASE XLVII.—*Hypertrophia cordis—Renal granulation in the second stage.*

J. D., male, æt. 50; in hospital a week; came in with delirium tremens; no history but that of intemperance: died 5th Feb. 1846.

Insp. cad.—Corpse stout, and well formed.

Head.—Brain firm, and with the membranes normal; only a slight excess of serosity in the folds of the arachnoid and in the spinal canal.

Lungs—Subcrepitous, but more or less engorged, congested, and watery.

Heart.—Weight 15 oz.; normal in structure, but loaded with fat.

Liver.—Weight 3 lbs. 13¼ oz.; very firm and heavy; rosy buff; acini finely developed, with little blood in any of the venous systems. By microscope, full of spherical cells, which, after dipping a specimen in hot water, disappeared, as if they had burst. No fat on analysis.

Gall-bladder.—Full of bile.

Kidneys.—The left small, rugous, and red mottled; capsule adherent; a small urinous cyst in one end; pale and granular throughout the cortex and between the pyramids.

CASE XLVIII.—*Fatty liver—Granular albuminosis of the kidneys, third stage.*

J. B., male, æt. 45, stout form, had been for some time afflicted with anasarca, and had albuminous urine: died 12th July, 1846.

Insp. cad.—*Heart*: much enlarged, and slightly adherent to the pericardium, which contained otherwise an excess of fluid.

Lungs.—Partially adherent to the costæ; were crepitous, and seemed pervious, but not examined interiorly.

Liver.—Smooth, mottled, full, and rather rounded at the anterior edge. On section, showed little blood; lobuli very distinct, with the intralobular veins well marked. Fat-ovules plentiful under the microscope; and by analysis the margarine amounted to nearly 15 per cent. of the mass.

Kidneys.—Very small, contracted, uneven, and mottled; the cortical parenchyma nearly disappeared, the base of the cones reaching the periphery. The whole structure greatly obliterated, but arterial vessels plentiful throughout, and showing, on the incised surfaces, thin, open, and projecting orifices. No fat nor oil-cells could be detected by the microscope.

CASE XLIX.—*Fatty liver and kidney.*

M. T. female, æt. 57, low in stature, had much lateral and angular curvature of the spine: a destitute woman, had for many years subsisted on charity, and she lived principally on beer. She died from diarrhœa the 26th July, 1846.

Insp. cad.—*Lungs*: free from the pleuræ, normal, but much infiltrated with black deposit.

Heart.—Normal, but loaded with fat, and rather flabby.

Liver.—Normal in size, but rounded much at the edges of the left lobe; firm, but pasty, exsanguine; colour buffy, and the lobuli irregularly defined in some parts, and diffluent in others. By the microscope, fat ovules were abundant, and as much so as had been previously observed; no analysis made, from want of time to perform it.

Kidneys.—Cones normal, but the cortical part much granulated, and thin; whole contour shrunk and uneven; rather an abnormal amount of fat-ovules seen by the microscope.

Intestines.—Natural exteriorly, but mucous coat softened, abraded, and ecchymosed in patches.

CASE L.—*Hydrops and renal disease.*

S. B., male, æt. 34: was four months in hospital with anasarca of the lower limbs, œdema of eyelids, face, and occasionally of the upper extremities; had latterly diarrhœa; urine always albuminous: died, comatose, 14th August, 1846.

Insp. cad.—Brain normal, but soft, pale; pia mater thin, and the ventricles contained an abnormal amount of serum.

Lungs.—Natural, but very spongy.

Heart.—Normal.

Spleen.—Large, of a dark lake colour, and very soft.

Liver.—Small, bloody, normal in its parenchyma.

Kidneys.—Natural in size, smooth, with a few granular vesicles dispersed over the surface; buff, with red mottling; cortical part, and between the cones, vascular, but also buffy and granulated. Microscope showed no abnormal quantity of fat-ovules; the corpora Malpig. very visible, and partly filled with blood, but generally anæmiated; the tubuli slightly impacted, but some were free from deposit.

Analysis.—1 oz. avoir. boiled in water for two hours, and the liquid filtered and evaporated slowly, gave 30 grains of a brown, glistening residue, becoming cracked and splintery by drying, with a peculiar osmazome odour. The result was, in 1000 parts albuminous matters, with fibrine 425; hydrogenous matters, 475; a trace of fat only appeared.

CASE LI.—*Fatty Liver—an extreme case.*

S. M., female, æt. 25: had been afflicted with tertiary syphilis, ecthyma, &c., but died from erysipelas and exhaustion, on the 14th November, 1846.

Insp. cad. Corpse much emaciated.

Lungs.—Normal, except a little congested posteriorly, and some chalk nodules in the upper lobes, but no tubercles nor vomicæ present; parenchyma nearly crepitous.

Heart.—Normal.

Liver.—Large; weight, 4 lbs. 6 oz., smooth, and rounded at all the borders; white and buffy. On section, anæmiated; whitish, pasty, lardaceous in aspect and to the touch, the impression of the finger leaving the distinct marks of its rugæ; large sections swam in tepid water: full of fat-ovules by the microscope; analysis gave in 1 oz. avoird. of

Margarine	185	grs.=42·3 per cent., or amounting to nearly 23 oz. [in the whole liver.
Moist tissue	160	„
Hydrogenous matters	92·5	„
	437·5	„

Spleen.—Irregular in form, but normal in structure.

Kidneys.—Smooth; normal outside and in, but exsanguined.

Uterus.—Normal, as well the other viscera externally.

Remarks on the foregoing third series of cases.

Of these eleven cadaveric cases, eight were those of men, and three only of females, which preponderance of the male sex may likely account for the greater amount of chronic lesions in the glandular viscera of the abdomen, as the men in the circumstances to which they were subjected during life, were more liable to injuries, hardships, and intemperance, than pauper women are in general. The average advanced age of the whole being about 41 years, with little individual deviation, may also have conduced, with the above probable conditions, to the greater development of lesions in the organs so affected, which are besides, in all ages, so much influenced by the accumulated effects of improper ingesta and other unfavourable habits, and accordingly exhibit a marked and intelligible contrast to the fewer changes that are found at an earlier period of life.

The general morbid diathesis of the whole group seems to have principally affected the serous membranes of the different cavities, including those of the chest, and also the parenchymata of the liver and kidneys; for while, with the exception of the first case in the series, there was little evidence of the mucous membranes or the muscular tissues having suffered any appreciable lesions, it is to be observed that the serous tunics of all the cavities had more or less undergone various and repeated morbid changes, of which fibrinous bands, laminæ of lymph, serous effusions, and aplastic exudations, were the result. The principal points of explosion of this albuminous dyscrasia seemed to have been upon the liver and kidneys, with a fainter concomitant lesion of the spleen and pancreas in a few of the cases. Of the eleven cases, nine exhibited some material change in the liver, consisting of hypertrophy of the lobuli,—coarse granulation, with or without hyperæmia in one or other of the vascular systems,—atrophy of the lobuli or of the whole viscus, and of roughness, unevenness, or a mammillated state of the surface. The 45th case may be instanced as one of granular hypertrophy; the 44th, as one of atrophy, and yet of the nutmeg character—which, by the bye, is not a very intelligible pathological term—and the 46th case may be cited as one of cirrhosis, the organ undergoing contraction. Of the nine more obvious lesions of the liver, there were three only which showed the fatty degeneration, and these were neither accompanied by phthisis nor by chronic impaction of the lungs, restricting the chemical changes of the blood. It is to be remarked, though perhaps, in the present state of our vito-chemical knowledge, not so easily to be explained, that while the 48th case shows a large deposit of margarine in the liver, equal to 15 per cent., yet an extreme condition of albuminous granulation, with atrophy, was found in the kidney. Another case; the 51st, again exhibited a liver almost converted into this species of fat, so as to swim in tepid water, and yet the kidneys remained in a normal condition. Though ten out of the eleven cases shewed lesions of the kidneys to a greater or less extent, nothing more than a normal amount of oil-cells could be detected in any of these, except in the forty-ninth case; but from the moderate amount observed, and looking at the extensive changes known to be produced by granular degeneration, it can scarcely be held that the oil was a morbid element. Considering the life and circumstances of the persons whose cadavera were under inspection, it is not very surprising to find such a majority of them having lesions of such organs as the kidneys, which, during life, would be exposed to much irregular action, stimulation, and enervation; and whatever change of function and structure they might consequently undergo, would be of more difficult removal or correction than a similar amount of abnormities taking place in the mucous membrane of the stomach and intestines.

The remark has before been made, and which these cases confirm, that granular lesions of the kidneys are very generally the type of similar ones that concurrently obtain in the parenchymatous organs—as the liver, the spleen, the pancreas, as well as co-existing with plastic or lymphous exudations of the serous membranes of the heart and pleura. That this general dyscrasia depends upon some altered condition of the fibrinous and albuminous constituents of the blood, there can be *little* doubt; but whether the concrete deposit, or the exudation, is owing to the greater tenuity of these blood-elements, or to an imperfect state of their vitalization, allowing of a more ready escape from the vessels, or inducing an obstruction in the extreme capillaries of the parenchyma; or whether the abnormal deposit is induced by some electrolysis in the organs affected, or simply by a superabundance of fibrinous and albuminous elements in the blood, —it is to be owned that our science cannot yet conclusively determine; though it is satisfactory that we can in most cases ascertain the existence of such abnormity in the living body, and apply, with more or less success, several therapeutic measures.

[To be continued.]

MEDICAL GAZETTE.

FRIDAY, JUNE 22, 1849.

THE power of the Royal College of Surgeons to expel its members on the ground of misconduct has been recently called in question on a motion for a new trial in the case of WAKLEY *v.* HEALEY. The plaintiff, Mr. T. Wakley, jun., brought an action for libel against the defendant, the well-known ex-editor and proprietor of the *Medical Times*. It appears that the libel consisted in the allegation that plaintiff had caused to be inserted in the *Lancet* certain favourable reports of cases which had occurred to him in his practice at the Free Hospital, and that these were afterwards published as extracts in advertisements in the daily journals. The charge, therefore, substantially was to the effect, that the plaintiff had indecently advertised himself, and had brought laudatory notices of his hospital practice in an unprofessional way before the public. A verdict, with damages to a small amount, was returned in his favour at the trial; but the defendant has recently succeeded in obtaining a rule for a new trial on the grounds stated in the following extract from the judgment of the Barons of the Exchequer:—

"The declaration complained of a libel on the plaintiff as a surgeon, imputing to him unprofessional conduct, and it was alleged that he was a member of the College of Surgeons, which (by its bye-laws) had the power of expelling any member who might be guilty of unprofessional conduct. The defendant expressly traversed this allegation, and it was objected by Mr. Healey at the trial, *that the plaintiff was bound to give some evidence that the College of Surgeons had such power of expulsion*. To this it was answered that no express proof was necessary, for that it was so stated in the libel itself, which was therefore relied on. He (the Chief Baron) had yielded to this answer, but erroneously, the better opinion being that the plaintiff was bound to give some direct evidence on this issue. This being so, the rule must be made absolute for a new trial, for if the attention of the jury had been drawn to that traverse and the evidence more distinctly, the result might have been a different one—at all events in point of damage."

Except as an encouragement to endless litigation, we cannot perceive the policy of this decision. The plaintiff made no allegation respecting the powers of the Royal College of Surgeons over its members; and why, in vindicating his character from libellous charges, *he* should be called upon to prove the truth of an allegation made by the defendant himself as to the extent of these powers, we are at a loss to comprehend. It will be perceived, from the extract of the proceedings, that the defendant HEALEY not only imputed unprofessional conduct to the plaintiff, but stated that he was a member of the College of Surgeons, and that this College had the power of expelling any member who might be guilty of unprofessional conduct. It was contended that the plaintiff should have proved at the trial that the College really possessed this power, assigned to them by the defendant in his libel. Chief Baron Pollock did not consider such proof necessary, and a new trial has now been granted solely on the ground that the defendant should have proved at the trial something which the defendant stated as true, but which he subsequently believed to be erroneous. The question therefore at issue is—Does the College possess this power of expelling its members for unprofessional conduct? The defendant has taken all the benefit of what he believes to be his own mistake on this part of the allegation: he has succeeded in procuring another chance before another jury. In the meantime, if, as we believe, it can be proved that the College does possess this power, which the defendant himself admitted in the libel but subsequently denied at the trial, then it follows that the plaintiff has been exposed most unnecessarily to the annoyance and expense attending another action. Take the other side of the question, and let us say that the College does *not* possess this power,—in what respect is the case altered? There is still the imputation of unprofessional conduct in giving sanction to the publication of indecent puffing and advertisements regarding practice: and this, we conceive, is really the gravamen of the libel. If a man, either through ignorance or a vindictive spirit, adds to the force of a libel by suggesting that expulsion from the profession might follow, he should not be allowed to take advantage of a mistake so committed. Had no action been brought, that which the defendant now believes to be untrue would most probably have been allowed to circulate with all the force of truth; and we do not find that previous to the trial the defendant had taken any steps to correct the alleged mistake, which it is now considered might have added to the force of the libel, and therefore increased the amount of damages. The granting of a new trial upon such a ground as this, appears to be completely opposed to the legal axiom that no man shall be allowed to benefit by his own wrong.

As to the disputed power of the College, it appears to us, omitting the words in parenthesis, that the Bye-law, No. 1, Sect. XX. clearly meets the case:—

"No member of the College shall [advertise a secret method or process of cure relating to his practice as a surgeon; or] put forth or *publish*, in whatever way, any *indecent advertisement or notification relating to the said practice;* and any member of the College who may in any manner offend herein *shall be liable to removal by the Council* from being a member of the College; and every member of the College who shall thereupon be removed as aforesaid shall forfeit all his rights and privileges as a member thereof."

This liability to removal, and loss of rights of membership, must be taken as equivalent to a power of expulsion. The libel, as we understand it, imputes to the plaintiff that he has been guilty of publishing indecent advertisements or notifications of his own practice; but if the term indecent be objected to as inapplicable, the second bye-law of the same section furnishes an answer to the objection. In this, the same punishment is visited on any member who "shall advertise or publish any matter or thing prejudicial to the interest, or derogatory to the honour of the College, or disgraceful to the profession of Surgery." We presume, that unless conduct of this kind had been charged against the plaintiff, he would have had no ground for an action; and, supposing this or an equivalent charge to have been made against him, *it is clear* that the statement as to the powers of the College first made by the defendant was correct, and that there was substantially no ground for a new trial.

On what pretence it was denied that the College possessed the power of expelling its members, is a matter which is left by the defendant in a convenient state of obscurity. The Bye-laws speak plainly enough: it is true that the College may not be frequently called upon to exercise the power, and may not consider it expedient in the present unsettled state of the profession to enforce it; but this does not affect the legal bearing of the question; and we entertain no doubt, that if the facts be properly laid before them, the judges will decide in favour of such a power in the College, and thereby establish that the second trial in this libel case was an unnecessary piece of litigation.

WE owe to the Board of Health another of those remarkable documents which have already gained for them a character for inconsistency and incompetency. We elsewhere* insert their last Notification respecting Cholera, issued on the 11th inst. The only effect which this document is likely to have on the public mind is that of keeping up a dread of the disease, which it is in all cases desirable to avoid. We do not think that there were any circumstances which called for its publication at the present time. The only practical points which we can find in it are—1. that premonitory symptoms should be immediately attended to; and 2. that cleansing operations in and about dwellings and streets should be resorted to. The first piece of advice was superfluous, for the fact is sufficiently well known to all; the second concerns the Board, for it appears to us to be *their* duty to see that courts, streets, and districts, are properly cleansed.

It can be no consolation to have it authoritatively announced that all modes of treatment have failed in the developed or collapsed stage of the disease. Such a statement, by giving rise to a feeling of despair, is only likely to baffle the future exertions of medical practitioners; nor is it at all satisfactory to find statistics put forward apparently for the purpose of reproducing that general panic which existed at the outbreak of the disease in the autumn. We are told that, up to the date of the renewal of the Order in Council (March 27th), there had been 14,332 cases and 6319 deaths, or a proportion of three deaths to seven attacks. From the 29th March to the 29th May, both inclusive, the total number of cases was 428; but from the 30th May to the 11th June, both inclusive, there had been throughout the country 673 cases. We are further informed that since the 27th March there have been 638 deaths out of 1203 attacks, or a proportion of more than one half. It would therefore appear from these figures, that, while the public have been consoling themselves on the disappearance of the cholera during the last three months, they have been actually in a worse position than they were during the winter! The Board, however, are comparing figures of very different values. No fair comparison of the rate of mortality from any disease can be made by a calculation based on numbers of cases varying so much as 14,332 and 1203; and yet these are the figures taken in order to prove that what was a mortality of three out of seven, during the severity of the epidemic, has become a mortality of one out of two, at a time when all alarm respecting it had ceased! The proportion of deaths to cases is a very important element in the history of all diseases; but it is equally important to look to the *proportion of attacks to the population* within a given period. Had the Board acted on this principle, they might have given some consolation to the public mind, instead of creating alarm. Thus, had the disease during the last three months been as severe in its progress as it was during the preceding six months, the Board would have had to record 7151 cases in place of 1203, and 3159 deaths in place of 63\! The fact of the deaths amounting to one half, really appears to us of small moment compared with the inference, to which these figures strictly lead—

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* Page 1095.

namely, that the cases have declined to only one-sixth, and the deaths to one-fifth of what they were when the mortality, according to the Board, amounted to three out of seven! The notification issued by the Board, need not, therefore, excite that discouragement to which in its official state it appears calculated to lead. Some diseases always have a high rate of mortality, but no reasonable alarm is excited unless such diseases become extensively prevalent in a population. If such statistics are put forward in order to frighten persons and compel them to attend to symptoms of disordered bowels in an early stage, we think it is ill-becoming a Board of Health to adopt such a plan, and it is likely to be attended with more harm than good. If they have not been put forward with such an intention, we are left to conjecture why they have been allowed to find a place in the notification at all; and the only explanation which occurs to us here, is that the Board must do something to indicate that they are *in esse*, or their existence as a public body would be altogether forgotten by the public and profession.

There is the same inconsistency respecting the origin and diffusion of cholera which we have already had occasion to point out in the former notifications. Thus, while in the latter part of the document, the Board speak of "the localizing conditions on which the presence of the disease depends," and imply that cholera owes its origin to "filth, bad ventilation, over-crowding, and other *local* causes of atmospheric impurity;" they speak of watching "the *progress* of the pestilence" abroad; "the similarity of its present to its former *course*;" "the fear that it might also again *reach* this country," &c. They therefore admit that they have been anxiously watching something which travels about on the continent and produces cholera! They call this something an epidemic influence: others call it contagion united to an epidemic state of the atmosphere. We shall not discuss this question further at present, but reserve our remarks for a future occasion.

UNUNITED FRACTURE OF THE FEMUR. SETON CONTINUED DURING FOUR MONTHS WITHOUT BENEFIT. AMPUTATION.

E. F., æt. 33. married, from New Jersey, was admitted 30th of March last, with an ununited fracture of the left femur. She states that she received the injury on the 3d of August, 1847, in falling from a swing, that the end of the upper fragment protruded slightly through the soft parts, which wound, however, healed by the first intention; that the fracture was treated with Hagedorn's splint, and after the first week four short splints were also applied, bound tightly round the thigh. This treatment was persisted in till the end of February, when no union having taken place they were removed, and pressure tried, also without effect, until she was brought to the city and admitted into the hospital. At this time the limb was enormously swollen, and very moveable at the seat of the fracture; the fragments appeared to be overlapped and separated considerably; by elevating the foot and throwing the limb outwards, they were brought into nearer contact. Under these circumstances splints were adapted to the limb, and so arranged as to keep the fragments as closely as possible together; rest and compression were again resorted to, and continued three months. Finding at the expiration of that time bony union had not taken place, it was determined in consultation to use the seton, as recommended by Dr. Physick, which I accordingly introduced on the 24th of June. No undue inflammation at any time supervened, though upon several occasions there were slight erysipelatous inflammation and considerable suppuration: the limb was placed in as good position as possible, and after a few weeks a splint made of gutta percha, well padded with cotton, carefully applied; this was worn some weeks, but removed as she seemed more comfortable without it. The seton was persisted in till the 29th October, when, finding it had produced no good effect, it was withdrawn. On the 15th of November, amputation of the thigh, above the seat of fracture, was performed by Dr. Norris.—*American Journal of Medical Sciences*, January 1849.

CLINICAL LECTURES
ON THE
PHYSICAL DIAGNOSIS OF PHTHISIS.

Delivered at the Hospital for Consumption and Diseases of the Chest.

By Richard Payne Cotton, M.D.

Member of the Royal College of Physicians London; Assistant-Physician to the Hospital.

Lecture VI.

The third stage—Changes in form and resonance of the chest—Signs of small cavities; cavernulous rhonchus—Signs of large cavities; percussion sounds; their variety; amphoric resonance; cracked-pot sound; circumstances necessary to their production—Character of cavernous respiration; its distinction from bronchial—Amphoric respiration—Whether the size of cavities can be ascertained—Distinction between vomicæ and dilated bronchi—Cavernous rhonchus; sonorous rhonchus; friction murmurs—Metallic tinkling in large cavities; its rarity—Pectoriloquy; its relation to bronchophony—Cavernous cough—Amphoric voice and cough—Distinction between large vomicæ and pneumo-thorax—Acute phthisis—Conclusion.

The third stage of phthisis, or that in which cavities exist in the lungs, is in general very easily recognized by physical examination.

Although as a general rule, at this period of the disease, the symptoms are so conspicuous as scarcely to leave a doubt as to the pathological condition, it is not very uncommon to find patients with large vomicæ, whose appearance is so deceptive, that without the stethoscope, the existence even of phthisis might not be suspected. Such cases, after a long combat with the disease, generally terminate suddenly and unexpectedly: hence, a familiarity with the physical signs of pulmonary excavations becomes of equal importance with those of the earlier stages.

There is no positive line of separation between the second and third stages; one passes imperceptibly into the other, and cases often occur in which it is difficult to decide between the two; but so soon as there is proof of the smallest excavation, the latter is said to have commenced.

It is unnecessary to describe minutely all the signs of the last stage, because the majority consist merely in an increase of those met with in the second. In most instances there is an evident falling inwards of the supra- and infra-clavicular regions, giving an appearance of prominence to the clavicle; on measuring the antero-posterior diameter, the difference between the two sides is very apparent, and on deep inspiration the movement of that part of the chest, and often of the whole side, is considerably diminished, and sometimes imperceptible: on percussion the sound is usually dull and flat, and the resistance of the thoracic walls strongly marked: the vocal and tussive fremitus are likewise increased.

Inspection, mensuration, and percussion (except over very large cavities, which will be mentioned presently), cannot do more than announce an advanced period of the disease, and it remains for auscultation to decide the actual stage.

For the sake of convenience I shall describe the stethoscopic signs of small and large cavities separately, wishing it, however, to be understood, that the main difference between them consists only in degree, and that every intervening state will be constantly discovered.

Where the cavities are small.—I have already said that the humid crackling, mucous, and subcrepitant rhonchi pass into one nearly allied to the mucous, but essentially metallic in its quality: when this is fully established the commencement of very minute cavities may be safely diagnosed. If a patient in this condition be examined from time to time, the rhonchus will be found more and more characteristic, until, by increasing in size and humidity, it at length becomes decidedly cavernulous.

The true cavernulous rhonchus is a clear, bubbling, and metallic sound, taking place both with inspiration and expiration, but especially the former; varying in loudness and frequency according to the amount of secretion; and giving to the ear the impression of being produced in a small and hollow space: it is easily recognised, and declares unequivocally the establishment of the final stage. The respiration at this time is usually more or less bronchial; sometimes merely harsh; but often distinguished with difficulty, from being masked by the rhonchi. I have observed that the heart's sounds, especially the second, now become more than ever distinct on the diseased side, which although not amongst the positive signs of excavations, may be sometimes recollected with advantage. Bronchophony is now more positive than formerly, and oftentimes so loud, as to be painful to the auscultator,—the result of increased conducting power of the lung, with emaciation of the thoracic walls.

Where the cavities are large.—When vomicæ are of some size, there arise a new set of signs, not yet mentioned, and with which it is highly necessary, but happily equally easy, to be familiar: they consist of still further modifications in the percussion sound, the respiration, the rhonchi, and vocal resonance,—all of which I shall explain separately.

Every variety of sound, from absolute dulness to what is termed amphoric resonance, may attend percussion over a cavity, according to its size, position, and the state of the surrounding parts: the force employed also makes a considerable difference, since, if if gentle, it will proceed from the superficial, and, if hard, from the deeper parts. Positive dulness of sound, with perfect inelasticity of the thoracic wall, is by far the most common. Not unfrequently, however, the sound is so little altered from that of health, owing probably to the morbid clearness of the cavity balancing the dulness of the neighbouring induration, that it is not very easy, without other evidence, even to ascertain which side is diseased. Amphoric resonance is heard only over large cavities seated close to the surface, or separated from it by indurated lung, and in the latter case requires rather strong percussion for its production: it is very characteristic, and exactly imitated by filliping the cheek when the mouth is inflated. When the percussion sound is more or less amphoric, it frequently happens that by directing the patient to keep his mouth open whilst the chest is struck somewhat smartly, a new character is developed, so peculiar, as to decide at once the history of the case,—I allude to the cracked-pot sound, first described by Laennec under the name of "bruit de pot fêlé." It is impossible by description to do justice to its peculiarity; but this is well expressed by its own designation, as it exactly resembles the noise produced by striking an empty and cracked pipkin. It seems necessary to its development that the cavity should be large, tolerably dry, and communicating freely with the bronchi; and that the mouth should be widely open. In no case have I heard it clearly marked in the absence of the last condition. Such a combination, however, does not invariably produce the cracked-pot sound, for reasons, perhaps, difficult of explanation; and if I were to hazard an opinion as to its frequency, I should say, that it may be met with in about one-third of such cases. On the whole, percussion is a capricious guide to vomicæ;—more frequently affording no evidence of their presence; sometimes calculating to mislead even as to the nature of the disease; but occasionally announcing them in the most unequivocal manner.

By the respiration alone, cavities of tolerable size may generally be detected, from the air in passing through them giving rise to a sound which is properly termed cavernous, easily distinguished by its hollow and metallic character, and at once telling of its production in an empty space.

Cavernous respiration often has its origin in a gradual increase of the broncnial type—the one passing into the other—but it may succeed any other morbid variety, or begin in spots, where, during the second stage, scarcely any respiration could be heard. Intense bronchial respiration is very closely allied to cavernous, and from a confusion of the two by inexperienced auscultators, I have seen patients unnecessarily alarmed, and most undeserved discredit thrown upon the stethoscope. They may be distinguished by the bronchial giving rise to the idea of its originating in a dry tube, whilst the cavernous seems to be produced in a hollow space, and is distinctly metallic; but it must be confessed that cases now and then occur, in which the most experienced have some difficulty in deciding between them.

Where the cavity is of very great extent, and tolerably free from secretion, the respiration undergoes another change, and is said to be amphoric,—a quality easily recognised by its resemblance to the sound caused by blowing into an empty bottle.

Amphoric respiration is generally, but not invariably, attended by amphoric resonance on percussion, and, like the latter, requires for its development, that the cavity should be large, and situated near the surface. There is in reality no line of separation between cavernous and amphoric breathing; the one merges into the other.

It is a question of some interest, whether we can form a tolerably correct estimate of the size of a cavity, from the quality of the respiration. To a certain extent I believe it to be possible, by its loudness, tone, and extent; but where there is much surrounding consolidation, we may easily be misled by the sound becoming more diffused. After a little experience, however, it becomes in a great measure the suggestor of its place of origin; but to prescribe rules for such distinctions, would be utterly vain. How *small* a cavity may cause cavernous respiration, is a point upon which I am not quite decided,—much must of course depend upon its position,—but I have several times seen one diagnosed, which after death was found scarcely larger than a hazel-nut: although I believe that vomicæ of this size will more generally pass unobserved.

Cavities free from secretion, even of considerable size, may sometimes escape detection, if only one examination be depended upon, owing to the absence of cavernous respiration, either from the closure of bronchi communicating with them by secreted matter, or a temporary cessation of breathing in the diseased part of the lung, apparently for the purpose of affording it a short respite from duty;* accordingly, whenever other physical signs, and the general symptoms and duration of the disease, indicate an advanced period of phthisis, it is prudent not to declare the absence of cavities in consequence of not detecting cavernous respiration, until after a second, or even a third examination.

The only condition at all likely to be mistaken for vomicæ, from the evidence of cavernous respiration, is extreme dilatation of the bronchial tubes—a very rare disease, more common in the centre than at the apex of the lung, and in its attendant symptoms so different from the last stage of phthisis, as scarcely to justify the one being ever mistaken for the other. Cavernous respiration is dry or humid, according to the absence or otherwise of secretion in the cavity, and in the latter case is associated with, and even frequently masked by, a very characteristic rhonchus termed cavernous, or, from another of its properties, gurgling.

Cavernous rhonchus has many varieties, according to the amount and consistence of the secretion, and the size of the cavity: sometimes it resembles the bursting of large bubbles, at others, the agitation of some thick and viscid substance in contact with air, but in all instances it conveys the idea of metallic hollowness, and can scarcely fail, even to the most inexperienced, to tell at once of the seat of its production. It varies in tone, and is sometimes heard by the patients themselves, who are thus enabled to point out the exact situation of the cavity; and not unfrequently it is loud enough to be distinguished at some distance from the patient's chest. Persons with cavities will sometimes describe a sensation like the ticking of a clock, and if the stethoscope be applied, an indistinct impulse is communicated to the ear, apparently produced by the agitation of fluid by the heart's action.

Sonorous rhonchus is now and then heard within, or in the neighbourhood of large cavities, either separately or mixed with gurgling, but, unless in the latter case, is a sign unworthy of dependence, since it might result merely from inflammation lingering in the larger bronchial tubes, at the upper part of the lung, from tubercular irritation.

Pleural friction murmurs, generally of the creaking variety, are occasionally heard over vomicæ, but are of course valueless, as regards their diagnosis, because they may happen at any period; but during the whole of the third stage the patient is more than ever liable to secondary pleurisy in distant parts: hence friction sounds of various kinds are frequently met with where pain is complained of.

When amphoric resonance, or the cracked-pot percussion-sound, or amphoric respiration, announce a very large cavity, gurgling rhonchus will seldom be heard, except perhaps at the very bottom, but a new sound may be developed by any effort of the patient, such as coughing, speaking, or breathing loudly, and sometimes without it—termed metallic tinkling.

It would be useless to enter into the many speculations as to the cause of this phenomenon; it will suffice to state that the sound exactly resembles the falling of a sharp metallic substance into a glass or metal jar;—sometimes reverberating and giving rise to what has been called metallic echo; and that it declares the existence of a hollow space filled with air, and containing a fluid. I regard it as a very rare attendant upon tuberculous cavities, never having met with it in the numerous cases I have examined: in hydro-pneumothorax it is very common, and the anatomical analogy between the two diseases would lead to the supposition of the former occasionally giving rise to it; I can only affirm that it seldom does so.

The last sign to be considered is pectoriloquy, which is a yet further modification of vocal resonance, and bears the same relation to bronchophony as cavernous respiration does to bronchial, and cavernous rhonchus to the crackling varieties. Pectoriloquy signifies the cavernous voice, and if, instead of speaking, the patient cough, the tussive resonance will be similarly modified (cavernous cough). In pectoriloquy the sound is more circumscribed than in bronchophony, the words are more articulate, and seem produced within the stethoscope, and close to the ear. Very often, although there is abundant proof of a cavity, there is but little pectoriloquy, or it is hardly separable from bronchophony, which may arise from a want of certain circumstances indispensable to the production of the former—viz. a moderate size, emptiness, and closeness to the surface, of the vomica. The loudness of the voice has but little influence in its production; but if the patient be directed to whisper, it becomes more distinctive (whispering pectoriloquy).

Of all the signs of pulmonary excavations, I believe pectoriloquy is the least to be depended upon; because, in the first place, it is not very often met with in a perfect form; and, in the next, many healthy persons, with thin chests and peculiar intonation of voice, have what may really be termed a natural pectoriloquy. I have especially observed this amongst French persons, and attributed it to the peculiar tone of their language; and it was in the French hospitals that I first began to distrust pectoriloquy. I confess that I am now seldom in the habit of employing it in diagnosis, both for these reasons and because other signs are generally sufficient, although I admit, that when well marked, it is very characteristic: whenever I desire its assistance, I invariably listen for "whispering pectoriloquy."

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* I have often observed the sudden loss of cavernous respiration, and its subsequent return, when there was an entire absence of secretion: the above offers the best explanation, and may easily happen, by the remaining portion of the lung increasing its activity.

The tussive resonance in cavities (cavernous cough) is of the same value as the vocal, and for the same reasons, but when well developed is perhaps even more characteristic. It is a ringing and metallic sound apparently produced close to the ear, often of sufficient intensity to cause a very painful sensation to the auscultator, and requires for its production the same conditions as pectoriloquy.

When the cavity is of very large size, and under circumstances favourable to the production both of the amphoric sound on percussion and amphoric respiration, the resonance of the voice and cough is attended with still further modification. When the patient speaks, the voice (amphoric voice), instead of being close to the ear and articulate, as in pectoriloquy, has more the character of bronchophony, but is hollow and metallic, and resembles the sound produced by speaking into an empty vessel. Precisely the same quality of sound attends coughing (amphoric cough), and the two will generally be found together. On the whole, I believe the amphoric voice and cough are of more value than the cavernous, being more peculiar—impossible of imitation in any healthy condition—and, under favourable circumstances, more constant in occurrence. There are but two pathological states which can produce these amphoric sounds—viz. large vomicæ and pneumothorax; but with the aid of other signs, and the history of the case, one can rarely be mistaken for the other; for whilst the former is nearly always at the upper part of the lung, and of comparatively limited extent, the latter exhibits itself over the greater part, if not the whole, of one side: the sudden invasion and severity of the attack would also suggest the idea of pneumo-thorax, by contrasting strongly with the chronic course of a large vomica.

I shall say but little on that form of phthisis which is termed acute, as it differs from the other chiefly in severity and duration, and the physical signs must undergo a corresponding modification. I have lately seen a person previously in good health suddenly attacked with this fatal malady, and dead within between six and seven weeks. Such cases, however, are happily very rare, and I can say but little of them from personal observation, but I should expect them to exhibit most of the phenomena, and the same transformation of rhonchi, as the chronic form, and these not limited to the apices, but more or less diffused throughout the lungs, and associated with considerable secondary bronchitis. The case just alluded to may serve as an example of what we should anticipate. The appearance of the chest was unchanged; diminished resonance, with bronchophony, were found nearly everywhere; there were dry and humid crackling rhonchi at both apices, almost from the beginning, and abundant subcrepitant râles throughout the lungs; and the patient sank from asphyxia and exhaustion, without any symptoms of cavities, apparently from general tuberculosis and rapid softening. Such cases might be easily mistaken; but if there be any means of detecting their nature, it can only be looked for in the practice of auscultation.

Having now brought my subject to a close, I have only to beg of you not to be alarmed at its apparent complexity, but to believe that it is as easily mastered as any other of equal importance; and, whilst I thank you for the attention you have given, I have only to lament that it has not been more worthily bestowed. The leading points I have discussed do not of course look to me for their parentage, but are collected from various authorities, and generally recognised. I have merely been showing their applicability to practical purposes, and venturing to praise or dispraise, omit or modify them, in accordance with my own observations made under the very favourable circumstances afforded by this excellent Charity; and if it has appeared that I have offered opinions in opposition to those of others far more experienced than myself, I can only tender them my respect, and fall back upon the consciousness of having stated nothing which I do not fully believe, and have not myself observed.

[During the progress of these lectures, the various points under discussion were practically illustrated upon the hospital patients.]

ROYAL COLLEGE OF SURGEONS.

GENTLEMEN admitted members on the 15th inst.:—T. J. Dunne—H. C. Hastings—J. Luke—S. Wallace—G. S. Garrard—W. Bayldon—T. C. Beatty—T. O'Reilly—J. D. Macdonald—J. Wilson—G. Parker—A. S. Fogo.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 14th of June, 1849:—George Thomas Jones, Winthall—George Chatfield—Alfred Puddicombe, Moreton Lampstead, Devon—Edward Edwards Phippen, Wedmere, Somerset.

Reviews.

Pathology of the Human Eye. By JOHN DALRYMPLE, F.R.C.S. Fasc. II. London: Churchill. 1849.

THE plates in this fasciculus represent Warts, Horns, with Syphilitic and Malignant Ulceration of the Lids. Plate 6, comprising six illustrations, is entirely devoted to diseases of the Lachrymal Apparatus. In Plate 7 we have Ecchymosis and Œdema, and in Plate 8 an admirable illustration of Scrofulous Ophthalmia. The praise which we have awarded to the first fasciculus must be extended to this. The plates are well drawn and coloured, and the accompanying remarks are short and practical.

Surgical Anatomy. By JOSEPH MACLISE, Surgeon. Fasc. 3. London: Churchill. 1849.

THIS part embraces—1. The *Surgical Dissection of the Wrist and Hand,* in three well-executed plates, two representing the palmar and one the dorsal surface. 2. *The relative position of the Cranial, Nasal, Oral, and Pharyngeal Cavities.* This plate comprises two views, and includes drawings of the blood vessels and muscles, as well as an excellent delineation of the cavities of the mouth, nose, fauces, and œsophagus, in relation to each other. 3 and 4. These plates show the relative position of the superficial and deep seated organs of the chest and abdomen. A study of these plates is calculated to be of great assistance in the diagnosis of injuries to either of these important cavities.

Mr. Maclise keeps up the character of his work as a usefnl guide to the student and operator.

Practical Observations on the Diseases of the Uterus. By ROBERT LEE, M.D. F.R.S. &c. With coloured Illustrations. Part II. London: Churchill. 1849.

Memoirs of the Ganglia and Nerves of the Uterus. By ROBERT LEE, M.D. F.R.S. &c. With five Engravings. 4to. London: Churchill. 1849.

IN the first of these works, Dr. Lee furnishes us with an account of various kinds of fibrous tumors and polypi which are connected with the walls and cavity of the uterus. The author gives short reports of sixteen cases illustrative of the pathology of these uterine diseases. There are five coloured plates attached to the work, from original drawings made by Mr. Perry. These are carefully executed, and are well calculated to convey a good knowledge of the form and structure of these uterine tumors.

The second work is a reprint of the various memoirs by the author on the discovery of the Ganglia and Nerves of the Uterus, and of the proceedings in the Physiological Committee of the Royal Society respecting them. This may be regarded as Dr. Lee's statement of his case, in a connected and authentic form. As the subject has been pretty freely discussed in the medical journals, we shall only remark that Dr. Lee here brings forward highly respectable authority in support of the soundness of his views; and we refer those of our readers who are interested in the controversy to the work itself. There are appended to it five admirably executed engravings, showing the distribution of the nerves and ganglia of the uterus in the impregnated and unimpregnated state.

Portraits of Diseases of the Scalp; with the safest and most efficient modes of Treatment. By W. C. DENDY, Senior Surgeon to the Royal Infirmary for Children, &c. No. 1. Quarto. Highley. 1849.

THE author proposes in this work to aid the practitioner in the diagnosis and treatment of those diseases which affect the scalp. The work will be completed in two Parts. The first number, which is now before us, contains four illustrations: — Crustula Granulosa; Crustula Scabrosa (Impetigo); Crustula Viscosa (Crusta lactea); and Crustula Favosa (Favus). While the drawings want that artistic finish which is to be found in other serial works illustrative of diseases of the skin, they present in a life-size the well-marked characters of the affections of the scalp which they are intended to represent.

A concise account of the characters of each disease and of the treatment required for it, accompanies each plate.

A Practical Treatise on Morbus Coxarius; or, Hip-joint Disease. By William C. Hugman, M.R.C.S., &c. 8vo. pp. 81. London: Highley. 1849.

The author's object in this work is to make known the advantages which have been obtained under his observation, in the treatment of hip-joint disease, by the adoption of the prone position, accompanied with general remedial measures. "The important object to be attained by the treatment recommended, is, that the shortening and contraction of the affected limb, which so commonly occur during the progress of the disease, may be prevented." (Preface).

The proposed method is, with some modification, that recommended by the late Dr. Verral, in the treatment of vertebral disease and distortion, and which we believe has in some cases been attended with better results than the employment of the supine posture.

The author's remarks on the pathology and general treatment of the disease are concise, but to the purpose; and with the few cases narrated, and with the illustrations, he has contrived to produce a useful monograph on hip disease.

An Essay on the Epileptic Forms of Puerperal Convulsions; being an attempt to elucidate the nature and treatment of the disease, by an appeal to Anatomy, Physiology, and Pathology. By Joseph Thompson, M.R.C.S., London, &c. Pamphlet, pp. 74. Nottingham: Oliver. 1848.

This essay consists of an application to puerperal convulsions of Dr. Marshall Hall's views of the nature of epilepsy, with copious extracts from the writings of other authors; and, though exhibiting the result of considerable research, it does not, that we can perceive, advance our knowledge of the disease. We may remark, however, that the relations between epilepsy and puerperal convulsions have been much more accurately stated by Dr. Tyler Smith, in his lectures published in the Lancet, and in his work on Parturition and Obstetrics.

We think that the tribute of eulogy to Dr. Marshall Hall, with which the author closes his essay, can scarcely be acceptable to a man of refined mind; and still less to the medical logician, who is not yet prepared by facts to admit the explanation of the phenomena of epilepsy offered by the reflex theory.

Correspondence.

THE INJURIOUS EFFECTS OF RUMEX ACETOSA.

Sir,—It is now nearly two years since I communicated to the Medical Gazette,* a paper on the above subject. I now beg to communicate another case, which confirms the observations previously published. My friend, Mr. G. Barnard, has kindly furnished me with the particulars.

E. H., aged 7 years, generally healthy, was visited from the Bath United Hospital, by Mr. B., on Saturday June 2nd, when she was suffering severely from constant vomiting of everything she swallowed: this commenced on the preceding Thursday, and was believed by her mother to be a "bilious attack;" what she rejected was of a green colour, and at this time thin. The vomiting became aggravated on the Saturday, the matter being thicker; there was pain at the epigastrium, occasionally exacerbated, being worse to-day; pulse small and frequent; tongue furred in its middle, its tip and edge red; eyes sunken; features collapsed; bodily powers prostrated; she moaned *frequently*; bowels costive; thirst extreme; appetite gone; sleeplessness; deglutition is not impaired; there had been no convulsions, cough, nor headache. Ordered Acid. Hydrarg. with Inf. Ros. every three or four hours.

On the 3rd there was no improvement; vomiting continued, with retching; that brought up was dark green and pulpy; complains of thirst; ate nothing; epigastric pain still severe; bowels have been once moved, being dark and frothy. Add Syr. Papav. to the mixture; take a dose of castor oil in the morning.

Mr. Crosby, who saw her on the 4th, told Mr. B. that she had vomited a "large quantity of green matter," since which she was considerably improved; but the bowels remained constipated: the Ol. Ric. was repeated, and on the 6th a greenish black fœtid motion was passed; the vomiting did not cease entirely until the 9th; her mother described the vomit as "green, looking like leaves beaten together." On inquiry, it was discovered that the child had been eating largely of sorrel on the Tuesday and Wednesday before her illness. Now (11th) she is much weakened and emaciated; drowsy; but her appetite is good.

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* New Series, vol. v. p. 69.

In comparing this with the cases before narrated, a resemblance will be obvious, but to say that they are exactly similar would be incorrect, inasmuch as the convulsive actions, cough, and dysphagia, which existed in the former case, were not developed in the present. This difference was probably due to the quantity taken being less, and not so many days in succession, and therefore unlikely to operate violently as an indirect stimulus to the nervous centres. Viewing the symptoms in the aggregate, an important connection is observed, as it serves to establish a point which it is essential should be determined—viz. phenomena supervening upon the eating of sorrel,—serviceable in guiding the practitioner in the diagnosis: the season of the year, with irritability of the stomach, should be a cause of suspicion. In the last century, a decoction of the leaves of sorrel in whey was considered a useful and agreeable drink in febrile and inflammatory disorders. Boerhave recommends it to be used in spring, as one of the most efficacious aperients and detergents. Some kinds of scurvies have yielded to its continued use. The Greenlanders, who are very subject to this distemper, are said to employ, with good success, a mixture of the juices of sorrel and scurvy-grass. The roots of sorrel are said to be deobstruent and diuretic. The seeds were formerly used in diarrhœas and dysenteries.[*] Externally the leaves are thought to promote suppuration.[†] In France it is cultivated for a salad, where a good deal is consumed.[‡] Missionaries inform us that with the Laplanders it is an article of food: to this there is a weighty and serious objection, as, after the ingestion of its (Rumex Acetosa) preparations, crystals of oxalate of lime are generated, and can always be detected in the urine.[§] Dr. H. Letheby, of the London Hospital, states, as the result of his investigations, that he has also discovered, after sorrel was taken into the stomach, crystals of oxalate of urea.[||] It would be interesting to examine this secretion in suspected cases for the future.

Laugier[¶] has suggested that the use of aliments containing oxalic acid may, under some circumstances, dispose to the formation of mulberry calculi. The following instance is recorded:—"A gentleman at Paris, being afflicted with a phosphate of lime calculus, was advised to make use of sorrel, which contains a binoxalate of potash, for the purpose of getting rid of the disease. He partook at his meals plentifully of this article of diet, which is in common use at Paris. In a short time the symptoms were aggravated considerably, and he died. On examination it was found that the calculus had acted as a nucleus for the oxalate of lime which had been formed in the system, and a mulberry calculus was the result."[*]

It seems difficult to admit the deleterious properties of sorrel, after considering the fact of its forming an edible article amongst the inhabitants of some countries. Its harmlessness among them might depend on their habits and constitutions being different, such as to tolerate the productions of their native land. Wibmer[†] states that they have a slightly irritant action on the stomach, which assertion is strengthened by the examples related by myself: in these the irritation was unusual. In these reports I have been strictly faithful.

These facts show that the practice of eating sorrel may give rise to serious accidents.

I am, sir,
Yours, &c.,
HENRY HANKS,
London Hospital.

40, St. James's Square, Bath,
June, 1849.

Medical Intelligence.

THE CHOLERA IN PARIS.

THERE has been within the last week a slight diminution in the number of cases and deaths. By accounts dated June 19th, we find that on the 15th, 16th, and 17th inst., there were received into the hospitals 280 cases, and the deaths during the same period amounted to 246. On the 13th, 14th, and 15th inst., there were in private houses 592 deaths! The exact number of cases cannot be determined. The total mortality from cholera in France up to the 18th inst., is estimated at 18,961 deaths. Of these, the fatal cases in Paris alone constitute 13,839!

NOTIFICATION OF THE BOARD OF HEALTH ON CHOLERA.

THE following notification in respect to the re-appearance of cholera has been published by the General Board of Health, Gwydyr House, June 11th:—

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[*] Edinburgh New Dispensatory, 3d edition, 1770, p. 74.

[†] London Medical Dictionary, 1809, vol. i. p. 22.

[‡] The London Dispensatory, 6th edition, p. 564.

[§] Urinary Deposits, &c., by Dr. G. Bird, 2d edition, p. 181.

[||] MEDICAL GAZETTE, New Series, vol. iv. p. 164.

[¶] The Elements of Materia Medica and Therapeutics, by Jonathan Pereira, M.D. F.R.S. F.L.S. &c., 1840, p. 822.

[*] The London Medical and Surgical Journal, 1832, vol. i. p. 523.

[†] On Poisons, &c., by A. S. Taylor, M.D. F.R.S., 1848, p. 523.

"The General Board of Health, in a letter addressed to the boards of guardians on the issuing of the Order in Council bearing date March 27th, 1849, for renewing for a further period of six calendar months the operation of the act 'For the Removal of Nuisances and the Prevention of Epidemic Diseases,' called attention to the fact, that recently in Scotland, and in various cities and towns on the continent, Asiatic cholera had again broken out, after it had disappeared for some time; and they represented the necessity, notwithstanding the general decline of the epidemic in Great Britain, of continuing to enforce every practical measure of precaution and prevention against this disease.

"The General Board of Health have continued to watch with anxiety the progress of the pestilence abroad, the similarity of its present to its former course indicating its probable return to its former seats. The identity of that course in past years led the Board to apprehend its probable increase in Russia and its return to Holland; and the fear that it might also again reach this country induced the Board to recommend the renewal of the Order in Council continuing in force the Nuisances' Removal and the Diseases' Prevention Act. Their apprehension has been realized. It has again prevailed as an epidemic at St. Petersburgh; it has returned to Rotterdam; and it is now the painful duty of the Board to announce that it has re-appeared in this country, having again broken out in various and distant places in England, Wales, and Scotland.

"The circumstances under which the disease has re appeared leave no doubt that these local outbreaks ought to be regarded as general warnings, proclaiming the necessity of the immediate and general adoption of every practical measure of precaution, as well on the part of private individuals as of collective communities.

"The summaries show the daily, weekly, and monthly cases of cholera that have occurred in the metropolis, in England and Wales generally, and in Scotland, since the renewal of the Order in Council, as far as those returns have been made to the General Board of Health; but there is reason to believe that numerous attacks have occurred in different parts of the country, from which no returns have been made to this Board.

"From these returns it will be seen that, since the latter end of March, cholera has broken out in 12 different localities in the metropolis, in 27 towns in England and Wales, and in 17 towns in Scotland; and that in several of these places, as in Sunderland, Liverpool, Durham, Hitchin, Gloucester, Keynsham, Bath, Merthyr Tydvil, Cardiff, Kilbirnie, Galashiels, Kelso, and Dundee, the disease has continued to spread.

"Another fact is declared by these returns of great significance, which calls for the earnest attention of the local authorities charged with the execution of the Nuisances' Removal and Diseases' Prevention Act—namely, that the attacks within the last 12 days have exceeded those which have occurred during the preceding two months.

"Thus in the two months from the 29th of March to the 29th of May, both inclusive, the total number of cases is 428; but within the last twelve days—that is, from the 30th of May to the 11th of June, both inclusive—there have been no less than 673 cases, and at the same time the disease has manifested a decided tendency to spread epidemically, as is shown in the numbers attacked on board the American emigrant ship at Plymouth, and in the extent to which the disease has prevailed in Glover Hall Court, Beech Street, Barbican, in the city, and also in Bermondsey.

"The total number of deaths, up to the time of the renewal of the Order in Council, were 6,319 out of 14,332 attacks, or in the proportion of three deaths to seven attacks; whereas the returns now made give 638 deaths out of 1,203 attacks, or a proportion of more than one-half—a proportion exhibiting the severity that usually marks the commencement of a general outbreak.

"Under circumstances which thus afford ground for apprehension that another visitation of the scourge may be impending, the General Board of Health deem it highly satisfactory to be enabled to report the uniform success which has followed prompt and continued attention to the premonitory symptoms which generally precede an attack of this disease. In their first notification on the re-appearance of the pestilence in September 1848, they announced that there is no real foundation for the extent of popular alarm arising from the apparent suddenness of the attack; that, except at the first outbreak of the disease in a locality, it is the developed stage only that is sudden; and that, in general, distinct warning is given of the approach of the disease in sufficient time for the employment of effectual remedies against it. Recent experience has fully confirmed the truth of this representation. In Dumfries, Hamilton, Paisley, Glasgow, and numerous other places, special arrangements have been made for the daily visitation of every house in the infected localities, with a view to search out incipient attacks, and to bring all such cases without delay under appropriate dietetic and medical treatment. The success of this measure, wherever it has been adopted, has been so decided, as to establish the fact that we have now arrived at the knowledge of an effectual mode of dealing with this pestilence; and the authorities charged with the execution of the Nuisances' Removal and Diseases' Prevention Act in any place in which cholera may hereafter break out, will incur the gravest responsibility if they do not forthwith organize an adequate staff to carry out this plan of visitation in its full efficiency.

"The General Board of Health have to regret the failure of any mode of treatment that has been hitherto adopted in the developed or collapsed stage of this disease. They would not discourage efforts to arrest the progress of the malady in this stage. They believe from information communicated to them, that individuals have been recovered from it who have received from the hands of their medical attendants the unremitting attention which is given to a person in a state of suspended animation; but few can receive such attention when the sufferers are numerous; and the register of deaths in all countries, in all climates, among all ages and classes, and whatever mode of treatment may have been adopted, shows that the only well-founded hope of saving life is by prompt and continued attention to the very first indications of an attack.

"Recent experience has fully confirmed the evidence previously adduced that the localities of this disease and the localities of other epidemics are the same, not a single instance having come to the knowledge of the Board of the spread of this scourge in groups in any other than the ordinary seats of typhus and other zymotic diseases; those seats being uniformly marked by the existence of filth, bad ventilation, overcrowding, and other local causes of atmospheric impurity. This is so certain and constant as to afford stronger grounds than ever for the presumption of culpable ignorance and neglect wherever successive cases continue to occur in any locality, or wherever the disease widely spreads through a court, street, or district.

"Recent experience further establishes the advantages that have resulted from the operations of cleansing. The first cases of cholera that occur in a locality are sometimes sudden without any premonitory symptom: this suddenness of attack is in itself evidence of the local presence in unusal intensity of the causes of atmospheric impurity. As soon as cleansing operations have been carried into full effect, these sudden cases cease, and instead of them diarrhœa appears, which, if promptly and properly treated, does not pass into cholera. Uniform experience shows that the first and certain effect of these cleansing operations is to stop these sudden attacks; and the cases of premonitory diarrhœa that follow, if early and properly attended to, are in the great majority of instances arrested at once; and thus the extension and the great mortality of cholera are checked.

"The portion of deaths to attacks already stated shows that the severity of the disease itself, wherever it actually breaks out, is as great as at any former period, if not greater; and a strong presumption arises that, but for such exertions as have been made, the general visitation would be equally severe as it still is in those localities of the towns and cities of Egypt, Russia, and other places, where no sanitary improvement has been effected.

"The General Board of Health have to renew their former representation, that what is done against this one disease will have been done against the entire class of epidemic diseases. It is scarcely possible to over-estimate the importance of the conclusion to which the whole tenour of recent experience leads, that in proportion to the intelligence and energy exerted *for the removal and prevention of the localizing conditions on which the presence of this disease depends*, it is practicable in a great degree to secure immunity from it, and that, if happily cholera should not again prevail to any great extent, those exertions will be equally effectual against typhus, scarlet fever, diarrhœa, and other native and prevalent epidemic, endemic, and contagious diseases.

"By order of the General Board of Health,
HENRY AUSTIN, Sec."

INFLUENCE OF CHLORIDE OF ZINC IN PREVENTING THE OCCURRENCE OF ULCERS IN THE CREWS OF VESSELS.

[*Extract from the Medical Report of H.M.S. Hibernia, for the quarter ending March* 31, 1849. By JAMES VAUGHAN, Surgeon, R.N.]

"ALTHOUGH the number of ulcers has not been large, yet I regret that more than usual presented of a sloughing character. Single cases of this destructive disease have occurred at intervals since the month of November, 1848; but in the beginning of March three had assumed that action, and the appearance of two others was very threatening. Thorough cleanliness and ventilation having failed to check the occurrence of the disease, I recommended the application of chloride of zinc in the manner prescribed by the instructions for its employment: 100 lbs. of the chloride were mixed with 400 gallons of fresh water, and poured into the air-holes, and down the ship's pumps. The vessel was then coated to 7° each side, and the solution allowed to remain for 48 hours, after which it was pumped out clean. Since then we have not had a fresh case of the disease; and although the course of those already attacked did not seem in the least degree altered, those two suspicious ulcers assumed a healthy action.

"The period, however, since the application of the solution was yet too short to arrive at any positive conclusion as to its influence over the specific cause of this most unmanageable disease."

Extract from the Return between the 1*st April and* 12*th June*, 1849.

"At the date of my last return I had to remark on the existence of ulcer of most violent sloughing character in the ship, and detailed the steps taken for its remedy. I am happy to be able to inform you that none of that character have since occurred, and that the ship has been perfectly clear of that most formidable disease."

⁂ We have great pleasure in recommending the above extracts to the notice of surgeons employed in the navy and merchant service. Surely, among the number of quarterly reports which every surgeon employed in Her Majesty's ships is obliged to send to the Director-General of the Medical Department, there must be much interesting matter which might without impropriety be laid before the profession. We have had but one short addition to medical literature from this department since the Reports on the Health of the Navy, by Dr. Wilson, were published some years ago. The Army Medical Department is much more active.

MUNIFICENT BEQUESTS OF THE LATE MR. CARMICHAEL.

Mr. Carmichael has left behind him additional proofs of the spirit which governed his actions. During life men do not receive full credit for generous and benevolent acts, but after death survivors do them justice. Every medical man in Ireland must now acknowledge the debt of gratitude due to their deceased friend. He has bequeathed £4,500 to be added to the Medical Benevolent Fund, in addition to £500 given during his life time; £5000 in all. To the College of Surgeons he has left £3000; the interest to be applied to the foundation of prizes for essays on specified subjects. To the Richmond Medical School he has also left £2000; the interest to be distributed annually in prizes amongst the students who distinguish themselves; and also £8000 to be applied in the purchase of ground and erection of buildings.—*Dublin Med. Press.*

UNIVERSITY COLLEGE HOSPITAL.

On Wednesday last the anniversary dinner in aid of the funds of this institution took place at the London Tavern, where about 100 guests assembled on the occasion. The party, though not very large, was highly respectable. Sir James Graham presided, and among those present were—Sir Edward Ryan, Lord Brougham, Baron de Goldsmid, Mr. F. Goldsmid, Hon. R. Denman, the Solicitor-General, Right Hon. E. Strutt, J. Hayward, M.P., Cornewall Lewis, M.P., Professors Arnott, Quain, Murphy, and Walsh. The Chairman, in proposing pros-

to its recent origin, and to the rapid progress which it had made in 15 years, having during that time relieved no less than 250,000 poor patients. The expense incurred in administering that relief amounted to £75,000, half of which had been contributed by the professors from the fees of medical students. The building was capable of containing 200 beds, but from want of funds no more than 130 had been put up, and that number had, owing to the same cause, been reduced to 100.

OBITUARY OF MR. WILLIAM CLIFT, F.R.S.

This gentleman expired at his residence, Stanhope Cottage, Hampstead Road, on the 20th inst., aged 77. Mr. Clift was deservedly well known to the public as the Conservator of the Hunterian Museum of the Royal College of Surgeons, a situation he had held for nearly half a century, having been appointed to that office on the purchase of the collection by Government of the executors of John Hunter, whose apprentice and assistant he was for many years, and also a *fellow*-labourer in the formation of that magnificent monument of the genius of his immortal master. Mr. Clift was a Fellow of the Royal Society, and greatly esteemed by the present and former distinguished *savans* of that body, particularly the late Sir Joseph Banks, Dr. Wollaston, and, indeed, so *highly* did Sir Humphry Davy (then President of the Royal Society) think of the lamented deceased, that he used his influence to admit Mr. Clift a Fellow before the increase of the now expensive admission fees; this gentleman being the last admitted on the old scale. The lamented deceased, whose wife preceded him but a few weeks since, has left an only daughter, married to Professor Owen, and a large body of friends to deplore their great loss.

CASE OF SUDDEN DEATH FROM ENTRANCE OF AIR INTO THE INTERNAL JUGULAR VEIN. REPORTED BY RICHARD H. COOLIDGE, M.D., ASSISTANT SURGEON U. S. ARMY.

On Sunday, the 13th of December, 1840, I assisted Doctors Hoffman and Aitkens in the examination of the body of Mr. J. It appeared that the deceased had been under the care of Doctor Aitkens, with variola discreta, from which it was probable he would recover. In a temporary delirium, he seized a razor and inflicted a wound, commencing over the sterno-mastoid muscle, about three fingers breadth below the lobe of the left ear, and extending to a corresponding point on the right side. In the course of the wound the left internal jugular vein was divided obliquely for about two-thirds of its circumference, and the carotid artery and pneumogastric nerve were exposed, but not injured;

the pharynx, so that the finger could be passed from the external wound into the trachea and œsophagus; the remainder of the incision was superficial. On the entrance of Doctor Hoffman, the patient was lying with his left side on the floor, with the head bent forward so as to partially close the wound. His back was towards the door, and the noise made by the Doctor on entering the room, attracted his attention, and caused him to turn his head in that direction, thus opening the wound; a convulsive struggle ensued, and before any assistance could be rendered, he had ceased to exist. The hæmorrhage had not been great, the amount being estimated by the appearance of the carpet and clothing not to exceed two pints. My impression is, that when Doctor Hoffman entered, Doctor Aitkens was by the side of the wounded man, that the hæmorrhage had been partially arrested, and that the pulse was good, and immediate death not expected; but there is no mention of this in my note-book from which this case is transcribed.

Autopsy.—This was not as complete as desirable, owing to the anxiety of some persons to remove the body from the hotel as soon as possible. The anterior portion of the parietes of the chest was removed in the usual manner. The lungs presented a natural appearance; there was no emphysema. On opening the pericardium, the right ventricle and pulmonary artery appeared more prominent than usual, and were elastic on pressure. The pericardium was now filled with water, and the right auricle punctured under water with a sharp-pointed bistoury: no air or blood escaped. The right ventricle was now punctured in the same manner, when a large quantity of air bubbled up through the water. There was no air in the left cavities of the heart. The quantity of air was not measured. On opening the heart, the right auricle was found to contain a clot of blood; the right ventricle, pulmonary arteries, left auricle and ventricle, were entirely empty; the venæ cavæ were filled with blood, but the pulmonary veins were comparatively empty.

Remarks.—Bichat was of opinion that death, in consequence of entrance of air into the heart, was caused by the paralyzing effects of the contact of air on the brain. Lysteur and Magendie believed that death was produced by the forcible and permanent dilatation of the heart. M. Leroy d'Etiolles wrote a memoir to prove that death from this accident is caused by asphyxia from emphysema of the lungs. M. Bouillaud, by whom the report of the commission appointed by the Royal Academy of Medicine at Paris, to report on M. Amussat's memoir, was drawn up, directs attention to the following causes of death:—

"1st. The enormous distension of the right cavities of the heart, inducing an irregularity or even a complete cessation of its movements.

"2d. The presence of air in the pulmonary artery and its branches, causing an embarrassment of the pulmonary circulation, and perhaps, also, a contraction of the aërial cells.

"3d. Compression of the brain from the air being occasionally admitted into the cerebral vessels."

I regret that I have not the memoirs of M. Amussat, or the report of the commission above referred to, at hand, and that I can only consult reviews. From these I find that on dissection, both in the inferior animals and in man, air in variable quantities was found in the right cavities of the heart and in the pulmonary arteries, sometimes alone, at others mixed with blood; and that the cerebral and other vessels sometimes contained blood mixed with bubbles of air. If emphysema existed in any of the cases, it is not mentioned in the reviews which I have referred to. (Vide Med. Chirurg. Review, April and July, 1833, and July and October, 1838.)

It appears to me that death in this case was caused by the sudden and complete arrest of the circulation. It will be seen by reference to the autopsy, that the lungs were not emphysematous, that their appearance was natural, that the pulmonary artery was distended with air, which escaped when the right ventricle was opened. It will also be observed that the left cavities of the heart were empty. If the air, after reaching the heart, had been propelled by the contraction of the ventricle, it must have followed the course of the circulation, in which case air (probably mixed with blood) would have been found in the pulmonary veins and left cavities of the heart, or, as has been asserted, it would burst the pulmonary capillaries, and thus form emphysema; if neither of these results should be produced, it is evident that the air must be arrested either in the pulmonary capillaries or in the pulmonary arteries before reaching them. In this case I presume the air was arrested by the contraction of the small pulmonary arteries (a result favoured in this case by the almost instantaneous cessation of the ventricular contractions), for the following reasons:—

1st. There was no emphysema.

2d. The lungs were not filled out as they would have been if the capillaries had been distended with air.

3d. The air remained in the right ventricle and pulmonary artery, which would not have been the case, if the capillaries received the air, unless the quantity was very great.

It is probable that death from the entrance of air into the veins, is sudden in proportion to the quantity received; that when the quantity is great, death is produced by the instantaneous arrest of the circulation, and when the quantity is small, we would have great disturbance of the circulatory and nervous system, the air would become entangled with the blood, necessarily altering its properties, and be thus carried to all parts of the body, producing its fatal effects either from the disturbance which it would produce as a foreign body,—or, as has been supposed, its oxygen might unite with the carbon of the blood, and prove fatal as a poison by the production of carbonic acid gas.

Seven cases of death from entrance of air into the veins, with the appearances on dissection, have been recorded. This makes the eighth, and is, I believe, the first in your city. Dr. Mott and Dr. Stevens have both had the accident occur, but death did not result. The case of the French lady, referred to by Dr. Mott, in his edition of Velpeau, was the first fatal case in New York, but the post-mortem appearances are not recorded in the note to Velpeau, and if published they have not met my eye.—*Philadelphia Medical Examiner.*

BOOKS & PERIODICALS RECEIVED
DURING THE WEEK.

Digestion and its Disorders considered in reference to the Principles of Dietetics. By Langston Parker.

Medical and Economical Botany. By John Lindley, Ph.D. F.R.S. &c.

Boston Medical and Surgical Journal. June 1849.

The British Record of Obstetric Medicine and Surgery. June 15, 1849.

La Presse Médicale. 17 Juin 1849.

Bulletin Général de Thérapeutique. 15 Juin 1849.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer		29·77
„ „ „ Thermometer[a]		58·5
Self-registering do.[b]	Max. 0·0	Min. 32·5

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 0·01.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was nearly 5° below the mean of the month.

BIRTHS & DEATHS IN THE METROPOLIS
During the Week ending Saturday, June 16.

Births.		Deaths.		*Av. of 5 Spr.*	
Males	720	Males	513	Males	494
Females	723	Females	399	Females	469
	1443		912		963

Causes of Death.		*Av. of 5 Spr.*
All Causes	912	963
Specified Causes	909	959
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*	251	198
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c.	32	48
3. Brain, Spinal Marrow, Nerves, and Senses	117	128
4. Heart and Bloodvessels	24	29
5. Lungs and organs of Respiration	88	131
6. Stomach, Liver, &c.	63	62
7. Diseases of the Kidneys, &c.	13	11
8. Childbirth, Diseases of Uterus, &c.	11	8
9. Rheumatism, Diseases of Bones, Joints, &c.	4	8
10. Skin	6	1
11. Old Age	31	30
12. Sudden Deaths	19	11
13. Violence, Privation, Cold, &c.	44	33

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	8	Convulsions	35
Measles	15	Bronchitis	35
Scarlatina	34	Pneumonia	34
Hooping-cough	45	Phthisis	118
Diarrhœa	36	Lungs	8
Cholera	42	Teething	11
Typhus	45	Stomach	5
Dropsy	8	Liver	9
Hydrocephalus	26		
Apoplexy	18	Childbirth	8
Paralysis	23	Uterus	2

Remarks.—The total number of deaths was 51 *below* the weekly Spring average. The deaths from Cholera have undergone an increase. Of the 42 fatal cases, 30 deaths took place on the south side of the river, and 33 were at the adult period of life.

NOTICES TO CORRESPONDENTS.

We have been unavoidably compelled to postpone the papers of Dr. Brinton, Dr. Campbell, Mr. Clark, and Mr. Grantham.

Mr. Salter's case of Abortion has been received, and will be inserted.

Mr. R. H. A. Hunter's Cases have been received, and will have early insertion.

We fear that in the present crowded state of our pages, we shall not be able to find room for the long letter on Medical Reform. Could our correspondent compress his remarks into a smaller space?

The Manchester Report has been received.

THE GENERAL INDEX.

We have to announce to our Subscribers that a General Index to the *first* 40 *Volumes* of the London Medical Gazette will, it is calculated, form a large Volume of about 700 pages. The cost of the Index Volume, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. Wilson and Ogilvy, 57, Skinner Street, will receive the Names of Subscribers.

London Medical Gazette.

Lectures.

CLINICAL LECTURE
ON
HYDATID DISEASE OF THE LIVER,
Delivered at Guy's Hospital,

By G. Owen Rees, M.D. F.R.S.

Assistant Physician to, and Lecturer on Materia Medica at, the Hospital; Physician to the Pentonville Prison.

The occurrence of two cases of hydatid disease of the liver, which have come under my care within a short period of time, has induced me to bring the subject before your notice, not only because many among you have watched the cases, but because the disease in question is comparatively rare in the human subject. The first case I shall merely mention cursorily, as the details have been already published in our reports. It occurred in the person of John M——, aged 31. He was a very healthy, muscular man. He had observed a tumor, accompanied with pain, in his right side, for some time, and considered that it had been gradually increasing for two years. He was of intemperate habits. The tumor, on examination, was found to extend over the whole of the scrobiculus cordis, and right hypochondriac region, and inferiorly over the upper third of the umbilical and right iliac regions. There was dulness over the region of the liver, somewhat above the usual line in the thorax. On percussion, the tumor was dull, and communicated a peculiar thrill to the finger opposed to it. The sac was tense. The patient suffered from cough and occasional sickness, which symptoms continued increasing. The vomited matters consisted of a pultaceous mixture of a light brown colour. This was ejected suddenly, violently, and in large quantity at a time. About six weeks after admission I resolved to tap the tumor with a trochar and canula, not larger than a common exploring needle, an operation which was performed by my colleague, Mr. Hilton. Before the trochar was introduced, the tumor was as nearly as possible secured in position by straps of adhesive plaister passed round the body, and drawn tightly, so as to exert pressure upwards; 38 ounces of a clear fluid were drawn off by this operation; the tumor became flaccid, and appeared completely empty. The patient was bandaged, and ordered to keep perfectly still, lying on his back; a grain of opium was ordered at night, and an aperient in the morning; three days after this another and similar operation was performed, when foetid pus, instead of clear fluid, escaped through the small canula. Two days after this second operation, a third was similarly performed, with the exception that we now used a full-sized trochar and canula. The trochar being withdrawn, about 24 ounces of foetid pus escaped, in which membranous flakes and partially destroyed hydatids were visible. An elastic gum tube was now passed through the canula, and the canula then drawn out over the tube, which was left in the tumor, with a view of retaining the openings in apposition. During the next ten days the patient went on well, taking support freely (12 ounces of wine per diem, and a full meat diet). Pus continued to discharge in large quantity; several perfectly formed hydatids came away in the discharge. The opening not being considered sufficiently free, was enlarged by an incision carried through the abdominal integuments and muscles, and extending half an inch from the right side of the old wound. The opening was preserved for a few days by means of sponge tent; but this created too much irritation to allow of its continued application. About three weeks after the operation, the patient was walking about the hospital squares; the tumor still discharging. He subsequently suffered from erysipelatous inflammation around the wound, which extended over the side of the chest and abdomen, but recovered from this remarkably well, and three months after the operation was discharged cured. The sides of the abdomen appeared then symmetrical; no distinct tumor could be felt; but on considerable pressure being practised, a body could be felt below the right lobe of the liver, apparently about the size of a walnut.

The second case to which I shall now direct your attention, is that of Charles Main, aged 59. He was admitted into Talbot Ward, under my care, on the 24th of January, 1849.

The report, by my clerk, Mr. Button, states as follows:—

Is a married man, with five children; a brickmaker by employment. Had enjoyed uninterrupted good health up to two years ago, when he first suffered occasional pain in the epigastrium. This recurred at intervals of about a week, or when he unusually exerted himself. Five months subsequently he observed a prominence in the median line of the abdomen, rather inclining to the left side: this gradually became larger, affecting him with occasional pain and uneasiness. Eleven months ago he first sought advice, having worked as usual up to that time. He entered the hospital under Dr. Rees, where he remained six weeks; at the end of that time the tumor appeared somewhat decreased in size. He resumed his work, but suffered from headache and

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continued weakness, becoming unfit for a day's labour, and finally again entered the hospital, January 24th.

On admission—of middling stature, sallow countenance, and has an emaciated appearance. Suffers occasional pain in the head; pain and tightness over the region of the epigastrium; at times feels giddy and faint, and for the last month has sensibly lost flesh. There is a tumor occupying the epigastric and hypochondriac regions, but extending more to the left: it gives to the finger when percussed a thrilling sensation not unlike fluctuation. It is very moveable; the stomach is pushed towards the left side, the liver being in position. Has never suffered either nausea or sickness. Examination of the tumor gives no pain. The existence of aneurism was negatived by strict examination.

Some aperient medicine was merely ordered.

Up to the period of the operation he remained much the same. Was subject to faintness, and pain at the lower part of the tumor of a dragging character, and exercise beyond a certain amount greatly aggravated his distress. He was ordered, February 1st, Iodine Ointment, to rub over the tumor, and Potass Iodid. gr. iij., ex. Inf. Cascarillæ ter die. They were discontinued on account of affecting his head. The urine is passed in natural quantity, and is not coagulable by heat. Respiration and heart's action normal.

Feb. 19th.—Mr. Hilton punctured the tumor with a small trocar; previously to this being done adhesive straps were firmly applied round the abdomen below the intended puncture, in order to be more secure against the entrance of fluid into the abdominal cavity. Nine drachms of fluid were evacuated, of a slightly turbid appearance, which Dr. Rees took for examination. A probe could be passed deeply into the wound, but no more fluid could be evacuated. Additional strapping was applied round the abdomen, the wound protected by lint and oil-silk, and the patient kept strictly quiet, lying on his back.

20th.—He slept well during the night, and feels tolerably comfortable. The intestines are somewhat distended and flatulent, but there is no tenderness on pressure, or any marked distress. Pulse 80, regular and firm; secretions natural; appetite unimpaired; his mind is more easy since the operation. Very slight oozing from the wound. The swelling is diminished.

26th.—He continues free from suffering: the wound has healed, and the swelling has the same appearance as before the operation. He has slight cough, for which he takes Pil. Dov. gr. v. horâ somni.

26th.—A much larger trocar was introduced by Mr. Hilton into the original wound, the skin being previously incised to the required extent, and on withdrawing it a small quantity of clear fluid oozed from the canula. On examining the canula, it was found blocked up by collapsed hydatids, which had occupied half the tube. Seven of them were removed by the dressing forceps: the canula was withdrawn, and a flexible tube, the size of the trocar, retained in the wound, about three inches of which projected externally, and was secured in position. Additional straps were firmly applied round the abdomen, and strict rest enjoyed.

27th.—He has slept at intervals during the night, but was disturbed occasionally by the cough, and smarting of the wound, from which there is a slight discharge, appearing at the base of the tube: in other respects doing well. The tube is very moveable during respiration, which irritates the wound.

28th.—Slight constitutional disturbance manifested itself; pulse 100, rather sharp, skin warm, but moist; tongue white. He complains of thirst and smarting at the wound, from which slight discharge appears.—Ordered, Pil. Saponis c. Opii, gr. viij., h. s. Port Wine ℥ij.

March 1st.—These symptoms have ceased. He slept well during the night; feels refreshed, and entirely free from distress; pulse 84, soft and compressible; secretions natural. Slight purulent discharge from the sides of the tube, which is to be removed, no fluid having ever escaped from its extremity. On its removal a collapsed hydatid was found blocking up the canal. By means of the dressing forceps several hydatid cyts were extracted, in a partially decomposed state. These were about the size of a chesnut, when allowed to expand in water. The wound is kept open by oiled lint, and covered externally by oil silk. Ordered the opiate pill at night, and the bowels not having been relieved, the following draught:—Tinct. Aloes, ʒij.; Sp. Ammon. Arom. ʒss.; Tinct. Lavand. ʒss; Potassæ Tartratis, ʒij.; Inf. Sennæ, ℥j., statim; also two eggs daily, a pint of porter, and ℥viij. of wine.

10th.—Up to this time he has gone on well: a great number of hydatids have been found outside the wound daily, some collapsed, others entire. The largest came away on the 5th, and was about the size of a small orange. The discharge from the wound is purulent and rather offensive, and the swelling is diminishing. The appetite is moderate, and he sleeps well. The edges of the wound are inflamed by the lint. He takes plenty of nourishment, with twelve ounces of wine daily.

13th.—He still appears to progress favourably. There is slight cough, which expedites the discharge of the hydatids, which are not so numerous. He has lost flesh since the operation, and he feels weak on sitting up a few hours, which he does daily. The appetite is moderate; the offensive nature of the discharge somewhat checking it.

14th.—On removing the dressing this morning, the discharge was found to be of a light yellow tinge, and more copious. He states that a great quantity suddenly escaped during the night, and his linen is thoroughly imbued with it. His general symptoms appear unchanged. A few hydatids were removed, also of a yellow colour, from the vicinity of the wound.

20th.—Up to this date the discharge has been of a bright yellow colour, and copious; no hydatids have come away since the 14th. His health has improved, and he walks out daily.

21st to 24th.—There is considerable febrile excitement; hot skin, white tongue, accelerated pulse, and a thorough disgust for food. The discharge continues copious, and highly yellow. There is also colicky pain in the abdomen, and an evident loss of muscular power. The bowels freely relieved by medicine administered.

26th.—The abdominal pain has entirely left him, but there is now acute pain midway between the sternum and spine of the right side, increased by the respiratory movements, and by coughing: there is slight dulness on percussion on that side, and the respiratory murmur is superseded by bronchial râles; no frottement can be detected. In Dr. Rees's absence, he was visited at night by the resident medical officer. Ordered—Emp. Lyttæ parti dolenti; Hyd. Chlorid. gr. j.; Pulv. Opii, gr. j. statim, et Haust. Sennæ post horas quatuor.

27th.—Has passed a very good night, and is considerably better; the cough troubles him, and the expectoration is of a viscid character. The discharge is now only slightly tinged with yellow, and is much less abundant. He perspires profusely; some mucous crepitation and dulness below the nipple of the right side.

30th.—He is perfectly free from all distress, having improved in every respect; anxiously looks forward for his discharge from the hospital; the wound has perfectly healed: the discharge to the last was slightly yellow.

April 7th.—Dr. Rees has sanctioned his discharge from the hospital; there is no prominence in the epigastrium, and he has gained considerably both in flesh and strength.

A month after the above date he presented himself at the hospital in perfect health, the only manifestation of the seat of his former disease being the cicatrix where the puncture was made, and a feeling as of a hard cord in the tract of the original wound.

The great point of importance in cases like the preceding is to ascertain as early as possible the seat of the tumor, and its nature. Now tumors have occasionally been observed in such positions in the abdomen as to lead to a belief that they belonged to the liver, but have afterwards proved to consist of disease of the kidney. Two such cases are recorded by Dr. Bright, in one of which the similarity was such as would have deceived most persons into the expression of a very decided opinion that the liver was the organ involved. Now, in diagnosticating these cases, it is necessary that you should carefully consider the relative position of the abdominal viscera; and you cannot perhaps have two better guides in cases like those I have related, than the stomach and the colon. In tumors of the abdomen connected with the kidney, you will generally be able at some period to detect the colon passing over the tumor. In order to discover whether this happens, it is necessary to examine frequently, placing the patient in different positions, and, moreover, varying the condition of things by aperients. The examination of a full abdomen will sometimes fail to throw light on what will become sufficiently obvious after the use of a purgative; but I must add that the reverse of this is also the case. Thus the position of a colon may sometimes be better detected when the viscus is full. As regards the stomach this is prominently the case, and no better time can be selected for ascertaining its true relative position to a tumor than after a meal, when percussion gives us the various resonant sounds derivable from the presence of air and fluid. When I examined these cases of hydatid disease, and more especially the first, I was always enabled, after the patient had taken food, to determine by percussion, not only that the tumor covered the right side of the stomach, but to ascertain exactly the point at which the stomach dipped under it. The tumor itself was dull, but a certain amount of resonance could be obtained from it by striking hard when the stomach was full, the sound being obtained through the tumor from the stomach beneath. This source of fallacy is of course easily avoided.

There is a peculiar sensation felt by the apposed finger when percussion is practised on a hydatid cyst. This is best described as a thrill, following the blow of the hand after a scarcely appreciable interval of time. I felt it in both these cases, and fancied the indication had not been previously observed. I find, however, that it has been before noticed by others, and is spoken of in Dr. Copland's Dictionary. It is very peculiar and distinctive. There was at the same time an imperfect kind of fluctuation to be felt in these tumors. You must especially note the following points in their history:—They both had been many months developing; they were not accompanied by any general disturbance of health; the patients had not the aspect of malignant disease; and although the tumor was decidedly connected with the liver, no jaundice had ever been observed, nor any other form of hepatic derangement; indicating a probability that what we observed was not disease of the organ, but an extraneous growth attached to it.

As regards malignant disease, no enlarged veins could be detected coursing over the abdomen, which is often observed in those suffering from malignant tumors. No pulsation could be felt, unless great pressure was made, and under no conditions could it be detected when the patients were placed on their hands and knees in bed, so as to allow the tumors to hang forward, and away from the great vessels lying on the spine. I have stated that the tumors were dull on percussion, which of course was what we should have to expect in such a mass as a hydatid cyst. Had I been able, on the contrary, however, to obtain any amount of resonance from the tumor by using moderate force in percussion, I might probably have had a suspicion that the tumor was produced by a fæcal collection in the colon, or some other disease than hydatids. I at one time thought that possibly an enlarged gall-bladder might be present; but there was not such fluctuation as we might expect in such cases, and other circumstances quite decided me as to the real nature of the disease. You will observe that in both these cases I had recourse in the first instance to the use of absorbent remedies. No success, however, followed their use. In the last case there was some apparent diminution in the size of the tumor, but this was in all probability only connected with general emaciation.

A fact also appeared during the progress of this second case which was not observed in the first, viz. the excretion of a yellow discharge. This yellow matter was examined, and satisfactorily ascertained to be bile. In respect to this symptom, it must always be regarded as unfavourable, indicating, as it does, that the liver has become involved, and probably, as the result of ulceration, that some of the hepatic ducts communicate with the cyst. This fact shows, that had the operation been much longer delayed we should have had serious mischief produced by the pressure of the tumor. A communication between the hepatic ducts and the cavity of the cyst was shown to have occurred in a case of hydatid disease lately treated by Dr. Addison, and which some of you probably saw, where, owing to the patient not having soon enough come under his care, the operation failed to preserve life, notwithstanding all the skill and attention which Dr. Addison brings to the assistance of his patients. Let us now consider what result we must expect if cases such as these are not easily diagnosticated, and means taken to relieve the patient by operation. The histories we have of recovery or spontaneous cure are far from encouraging. Cases are on record, however, in which the patient has even survived the rupture of what was supposed to be a hydatid cyst into the peritoneal cavity. Dr. Bright relates such a case; but there is no proof that the disease was really hydatid, and if it were, it could scarcely have been one containing hydatids in its cavity. These hydatid tumors, however, for the most part take a different course, working their way through organs, and eventually allowing their contents to escape, either through the bronchial tubes, the intestinal canal, or the umbilicus. They will also sometimes approach the surface of the abdomen, become adherent, and eventually discharge themselves. Now in all these methods of spontaneous discharge you must observe in what extreme peril the patient is placed. There is a necessity for the setting up of inflammation, of burrowing by ulceration, and consequent injury to, or destruction of, important organs, so that at last we only obtain a more protracted fatal result. Compared with all this, I believe the danger of the operation I have described is trivial; and if we can only make an early diagnosis of the true nature of the disease, we have the satisfaction of relieving our patient without permitting injury to any organ whatever. Of one thing you must be very careful, and that is, fully to impress your patient with the absolute necessity for perfect rest after the operation. You must fully enlist his assistance or you will scarcely succeed, as it is extremely painful to remain with any steadiness as nearly as possible in one position for two or three days and nights together, which is necessary. In watching for symptoms after these operations, some care is requisite to avoid mistaking for peritonitis the soreness in the neighbourhood of the wound, and the stiffness produced in the muscles by lying in one position. It is necessary to support your patients well after these operations: let them have beer and full diet if they can take it, and watch the pulse for indications of debility rather than anything else. While the discharge was going on, much support, as you observe, was required in both cases, and a depression of power occurred which I believe would have baffled us had we not previously kept up constitutional power.

I must here state that hydatid tumors have sometimes been opened by creating inflammation and ulceration through the abdominal walls, by means of caustic applications. In this way adhesions between the tumor and parietes may sometimes be effected, and the tumor thus made to discharge its contents. This method, however, is uncertain, and would be quite hopeless in such a case as the second I have to-day brought before your notice, as the cyst lay at some depth from the surface. It is, moreover, a long process, and it is a great object to evacuate these tumors immediately we have made our diagnosis, in order to prevent them burrowing in the neighbourhood of vital organs.

The clear fluid of the cyst which was obtained from these two cases was of the same character. In the first it was of sp. grav. 1010, in the second 1007. Both contained caseous matter and fragments of echinococci. They were feebly alkaline, not coagulable by heat or nitric acid, but effervescing on the addition of an acid, owing to the presence of alkaline carbonate.

The echinococci are inhabitants of hydatid cysts, and exist affixed to their internal surface, the innermost layer of the hydatid membrane being reflected over the echinococci. In the sac so formed they are united, according to Mr. Busk, by peduncles, to one common centre, which is adherent to the hydatid cyst. The diagram I now exhibit shows you these creatures under various conditions: some you observe have their heads retracted, and are more or less of spherical outline; others have the head protruded, showing hooked processes arrayed in a curved line, and an apparatus at the sides of the animal by which probably suction is performed.

You may always know fluid to come from a hydatid cyst if these hooked processes can be detected by the microscope. They are, as you see, very peculiar in form, and cannot easily be mistaken.

ROYAL COLLEGE OF SURGEONS.

Gentlemen admitted members on the 22nd inst.—R. C. N. Davies—E. Buckell—C. Alworthy — D. C. Wadsworth — C. H. Chambers—T. Francis—W. R. Crouch—F. W. N. Wilson—H. Ludlow—H. C. Hare—W. F. North.

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 21st of June, 1849 :—James Morris—Frederick Gardner, Pangton, Devon — Henry Watts, London—Joseph German, Derby — Robert Moore Bowman, Ripon, Yorkshire.

Original Communications.

CASE OF

CÆSAREAN OPERATION,

UNDER THE INFLUENCE OF CHLOROFORM.

By John Campbell, M.R.C.S., Eng.
Medical Officer of the Lisburn Union Workhouse and Fever Hospital.

As the following recent case of the Cæsarean operation, happily of rare occurrence in this country, with a brief history of the subject of it, may prove interesting to the profession, allow me the medium of your valuable journal for its communication.

Mrs. Rogers, aged 40 years, a poor woman residing in a mountainous district about six miles from Lisburn, County Antrim, Ireland, had enjoyed good health from infancy, till about ten years ago, when, shortly after the birth of her second child, now alive, and deformed with rickets, she began to complain of pains in her joints of a rheumatic character. Since that period she has given birth to three children, besides the one of which she was delivered by this operation: her first four labours were not attended by anything worthy of interest: the fifth child, about four years since, although very small, was extracted still-born, with extreme difficulty, owing to the contraction of the pelvis consequent on mollities ossium, she being at that time totally unable to move or leave her bed: her health, however, during the last year having improved, she again became pregnant, and was seized with labour pains on Wednesday the 16th May, and visited by me on the morning of the 18th.

The pains, which for twenty-four hours had been very severe, were on my arrival violent, but quite ineffective, and an examination per vaginam revealed an amount of pelvic deformity and contraction that induced me to consider delivery with the crotchet impracticable.

Having communicated my views to the patient and her friends, I administered a full opiate, and left her, returning three or four hours afterwards, accompanied by my friend Dr. Musgrave, at which time, on examination, the fingers and head could with difficulty be reached, the presentation being one of hand and head.

The pains continuing very violent, we resolved, notwithstanding the difficulties in our way, to attempt the performance of embryulcia, but failed, the pelvic contraction being such as to prevent even a finger and the perforator passing to the head together: the Cæsarean section therefore appeared to us the only course to pursue with a view to the preservation of the life of either mother or child: this being resolved upon, and readily consented to by the patient and her friends, to whom all its dangers, advantages, and disadvantages, were fairly stated, and the patient placed in as favourable a position for the operation as her wretched cabin could afford, we poured a little chloroform on a piece of lint, and laid it loosely over the mouth and nose. Complete insensibility to pain being in a few seconds produced, I commenced my incision two or three lines to the left side, and an inch above the umbilicus, carrying it down to within an inch of the pubes, dividing merely the integuments; then, opening the peritoneum at the upper part of the wound, from which a considerable quantity of serum escaped, and using the fore finger of my left hand as a director, with a probe-pointed bistoury I laid open the abdominal cavity and exposed the uterus, into which I cautiously introduced a scalpel, and with the bistoury resting on my finger, as in the former incision, I divided the uterus (fully an inch thick) to the extent of the external wound, and without difficulty extracted a healthy female child (weighing eight pounds), and immediately the placenta and membranes.

The uterus contracted quickly, and a knuckle of intestine, with some omentum, likely to protrude, were guarded until the edges of the external wound were brought together by a few interrupted sutures: a piece of wet lint was laid over the wound, with a longitudinal pad of calico on either side of it, and all secured by a roller firmly applied round the body, extending from the breasts to the trochanters.

The operation, which exclusive of the bandaging did not occupy more than five minutes, was not in the slightest degree felt by the patient, who, on the conclusion of it, in the warmest manner expressed herself to have been without pain and comfortable, though fully conscious that her delivery was being accomplished in so unusual a manner. Her pulse was now, four o'clock P.M., 60, and good; vomiting, however, occurred about twenty minutes after, and for half an hour proved troublesome, causing an opiate given after the operation to be rejected.

19th.—Has passed a good night, and had some sleep; lochial discharge per vaginam copious; urine voided freely; occasionally feels the uterus, which she describes as "a lump moving through the belly," attended with some pain, and an increase of the lochial discharge. Child applied to the breast; skin natural; pulse 100. To have one grain of opium, and half a grain of calomel, every four hours.

20th.—The earlier part of the night has been easy, but now complains of sickness, and a tendency to faint; skin moderately warm; pulse 100; urine passed freely; lochial discharge abundant; occasional pain in the abdomen. Some milk in breasts; tongue moist and clean; bowels not moved; to have a simple enema, and continue the pills every six hours.

21st, 8 A.M.—Sickness and vomiting distressing; skin warm; pulse 120 and wiry; occasional pain in the abdomen, but no tenderness on pressure; flatus passed per anum, but no fæces, the enema having been returned as it was given. Considerable tympanitis; wound dressed, but not discharging; lochia abundant. To have ten grains of calomel in dry sugar immediately, with one grain of calomel, and one grain of opium, every three hours, and mercurial ointment rubbed into the arm-pits every three hours.

6 P.M.—Pulse 150; abdomen slightly pained, and tympanitis increasing; some serous discharge from the wound; has vomited but once since morning.—To continue the pills and mercurial ointment.

22d, 6 P.M.—Countenance anxious; some vomiting, extreme sickness, occasional hiccough; bowels not moved; no abdominal tenderness; tympanitis increasing; discharge from the wound continuing.

23d.—Has had an uneasy night; sickness and vomiting obstinate; abdomen greatly distended, but without pain; bowels still unmoved; features sharp and pinched; pulse 140; discharge from wound copious; lochia ceased.

24th.—Sickness and vomiting having ceased, she sank about 1 P.M., without expressing any signs of pain, and re aining her senses till the last, having survived the operation seven days.

The post-mortem examination, made twenty-four hours after, exhibited very extensive peritonitis, with some serous effusion into the peritoneal sac; the uterus was about twice the size of the closed hand, the wound in which did not appear much more than two inches n length.

The pelvis was extremely distorted and contracted, the rami of the pubes being approximated to within half an nch of each other, as were the rami of he ischia. The antero-posterior measurement of the brim was but an nch; the transverse two inches and a quarter.

Such are simply the facts connected with the case of this poor woman, whose sufferings and privations during the last eight or ten years, consequent on poverty and disease, have been extreme indeed, and equalled only by the fortitude which, in an hour of trial, she displayed in giving birth, under circumstances of peculiar difficulty and danger, to a child, which, I am happy to say, is healthy and doing well.

Lisburn, May 26, 1849.

OBLIQUE LACERATION OF THE MIDDLE PORTION OF THE FLEXOR CARPI RADIALIS AND PALMARIS LONGUS.

By John Grantham, F.R.C.S.E.

THE following case is an extreme one of the kind, showing its true character, and the results of neglect, at its commencement. A young man consulted me in consequence of inability to move the hand backwards, from what then appeared to be an anchylosed state of the carpus, from enlargement of the bone on the anterior part of the radius, with a corresponding thickening on the posterior portion of the joint. The pain was referable to the lower extremity of the radius, and general uneasiness was felt towards the elbow on the fore part of the arm. When he sought my advice, the case had been of eighteen months' duration, and had been treated with the application of leeches and cold lotions to the wrist, both of which failed in lessening the enlargement, or removing the contraction. On examination of the joint, I was led to infer there was no lesion within the capsular ligament of the carpus, neither could I say the ligamentous structure was thickened. The enlargement or swelling appeared to be confined to the tendons of the flexor carpi radialis and palmaris longus; and on further consideration I felt convinced that there must be a shortening of these tendons, causing a thick appearance of their structure where they pass over the anterior annular ligament of the wrist-joint. Carefully tracing with my finger towards the origin of these muscles, more particularly the flexor carpi radialis, I clearly detected an oblique uneven depression in the middle of the fore-arm, and on making gentle pressure, it produced the sensation of pain in that part, extending towards the wrist and elbow. The patient considered the cause of the injury to have been the effort of lifting a cylinder of iron of great weight; and, furthermore, he informed me that it was in the middle part of the arm where he first felt the pain and uneasiness. I am aware that loss of action will produce diminution of size in a muscle, yet the fact of tearing the muscular structure is as true to my senses in this instance as any truism in surgery. It has been further corroborated, by observing two other cases of laceration of the flexor carpi radialis in the early stage of the injury; and in justice to others, it is but right to add, I should not have detected the source of the two latter cases, had I not ascertained the true nature of the first, such an injury not having yet been recorded in surgical literature.

The treatment consisted in first reducing the inflammatory action which pervaded the fascial covering of the tendons by the application of counter-irritants; afterwards by applying support to the limb by means of a flannel roller from the wrist to the elbow, so as to make uniform pressure on the muscles, and gradual extension of the hand. This had the effect of removing the pain and some of the swelling; still the difficulty of moving the hand backward remained. I then ordered the wrist and fore part of the arm to be steamed with a jet of steam three times a day, and, after each steaming, to be well rubbed with a liniment of equal parts of Liq. Ammon. Fort. and Lin. Saponis; also endeavouring, by pressing the palm of the hand on the edge of a table, to get back the normal length of the anterior tendons, which I am pleased to report was accomplished after two months' constant attention to the above suggestions. There is now at this time not the least appearance of enlargement remaining.

Crayford, Kent,
May 28, 1849.

THE CHOLERA IN PARIS.

We are glad to perceive by the French journals that the deaths from this disease have undergone a considerable diminution. The total deaths are now reduced to about 120 daily.

CHOLERA IN THE UNITED STATES.

The rapid spread of the cholera is the only fact worthy of notice in domestic affairs. In New York the deaths from cholera since May last are stated to be 205. From all parts of North America the reports mention the extended range which this epidemic is taking.

THE ROYAL SOCIETY.

At the anniversary meeting of the Royal Society recently held, the following gentlemen were among others elected Fellows:— Sir R. Kane, M.D.—J. Dalrymple, Esq.— H. B. Leeson, M.D.—F. Sibson, M.D.— T. Andrews, M.D.

PRIZES AWARDED BY THE ROYAL COLLEGE OF SURGEONS.

The Collegiate Anatomical Prize, founded by the Council of the Royal College of Surgeons, has been awarded to Mr. Henry Gray, of Wilton Street, Grosvenor Place, a member of the College, and Demonstrator of Anatomy at St. George's Hospital Medical School, for his Essay on "The Origin, Connexion, and Distribution of the Nerves of the Human Eye and its Appendages, illustrated by Comparative Dissections of the Eye in the other Vertebrate Animals." An Extraordinary Premium of fifty guineas has been awarded to Mr. Alfred Poland, of Cloak Lane, City, a Fellow of the College, and Demonstrator of Anatomy at Guy's Hospital Medical School, for his dissertation on the same subject. The Jacksonian Prize, for the best dissertation on "Diseases of the Mammary Gland, male and female, and the Treatment thereof," has been awarded to Mr. John Birkett, of Broad Street Buildings, a Fellow of the College, and assistant-surgeon to Guy's Hospital.

MEDICAL GAZETTE.

FRIDAY, JUNE 29, 1849.

The election of three members of Council at the Royal College of Surgeons, to fill the places rendered vacant by the deaths of Mr. Samuel Cooper and Mr. Callaway, as well as by the retirement of Mr. Luke, is exciting an unusual degree of interest in the profession. The election is fixed for Thursday next, and it will therefore be decided before the appearance of another number of this Journal. We had intended to make some remarks upon the subject, but it has been recently so ably handled in our pages by a Fellow of the College,* as to render any advice on our part almost superfluous. It is clear that there are certain defects in the mode of election prescribed by the Charter: but these do not now admit of a remedy. Each name is called in rotation, according to seniority, *and it* is competent for three of the *Fellows* to propose any other Fellow as a *member.* Our correspondent has furnished us with a list of seventeen names, but it is probable that the choice of the Fellows will be confined to three out of the first five names. If the Fellows desire to uphold the status of the College at the present revolutionary crisis, they will select men according to their merits as *surgeons*, and irrespectively of any private influence, or personal feelings. The Fellows comprise a class of men who ought to be prepared to act independently on such an occasion. They can require no information on the merits of the respective candidates: they must not only elect men who hold a good position as surgeons, but whose avocations are not such as to prevent them from taking an active share as members of Council. It is highly probable that Mr. Luke will be re-elected, and that Mr. Hodgson, late of Birmingham, will be added to the Council. The contest will, therefore, lie in the choice of a third member, and the Fellows will have to decide whether this honour shall be conferred on Mr. Wormald, Mr. Pilcher, or Mr. Bishop. We deprecate as unfair any canvassing or clubbing of votes against particular individuals. The tactics of Parliamentary agents should not be imitated by a body of gentlemen who are required by the Charter to perform a duty in which the interests of the whole profession are involved.

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* Medical Gazette, June 15, p. 1067. See also the number for January 12, p. 82.

As we had anticipated, we are to remain unreformed for another year at least. The Lord Advocate's Medical Registration Bill is likely to share the fate of Sir James Graham's four memorable measures for quieting the profession. Indeed, if we are not incorrectly informed, the Registration Bill of 1849, has already met with an euthanasia; and the Lord Advocate has abandoned in despair, the attempt to adjust any one of the nine quarrels, to which, as suggested by a contemporary,* every Medical Reform Bill must *ex necessitate rei* give rise. That the profession is quite indifferent on the subject, appears obvious from a document now before us in reference to Public Petitions to Parliament in 1849. It has been repeatedly stated that there are from 16,000 to 20,000 medical men in the empire, who are all suffering under the most grievous oppression, and who earnestly desire reform. We will take the number at a more moderate estimate—namely, 12,000, and then compare figures. There have been presented to the House of Commons *forty-two* petitions for a reform of the medical profession, signed by only 329 persons! This amounts to 1·36th part of the profession according to our estimate, or to only 1·60th according to the larger figure assumed by others. Practical men, like the majority of our legislators, will draw the conclusion, that the oppression cannot be of a very grievous kind, which can only induce one man in thirty-six to come forward and sign a petition for its removal! It is of no use concealing the fact,—the question of "Marriage with a deceased wife's sister," and the Utopian plan of the Peace Society, of avoiding war by Arbitration, have much stronger claims for settlement by law than Medical Reform. For the first-named measure there were 178 petitions from 31,019 persons; and for the second, 1133 petitions, signed by 204,479 persons. We will leave our readers to imagine what prospect there is of an early settlement of the medical reform question, when it is found that the public movement in its favour, as indicated by petitions, is so slight as to sink into utter insignificance. All would rejoice at some reasonable enactment, based upon concessions made by our corporate bodies, and at the introduction of a proper system of registration; but so long as the present rivalry is kept up, there can be no expectation of a change for the better. Bills may be introduced and withdrawn, and petitions may be presented, conflicting with each other, and receiving support only from a very small section of the profession, but real reform will be as far off as ever.

THE present number completes the forty-third volume of the MEDICAL GAZETTE, and the eighth volume of the New Series. Our summary of its contents may be comprised in a few words. In the *Lecture* department the

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* Pharmaceutical Journal. See our number for Jan. 8, p. 990.

Course of *Surgery*, by Mr. B. COOPER, has been continued with regularity. This course, it is expected, will be brought to a completion in the next volume. The lectures of Dr. MURPHY on *Preternatural and Complex Parturition* have been temporarily suspended: they will be resumed in the autumn, and this course will also be completed in the forthcoming volume. In addition to these we have published courses of *Clinical Lectures*, on *Medicine*, by Dr. R. B. TODD, and on the *Physical Diagnosis of Phthisis*, by Dr. R. P. COTTON. Dr. TODD has also contributed to our pages the *Lumleian* lectures, delivered during the spring at the Royal College of Physicians. Numerous Clinical Lectures on *Surgery*, by Mr. ADAMS and Mr. SOLLY, will be found scattered through the volume. Our readers will have observed that we have just commenced the publication of Professor PAGET's valuable and interesting course *On the Processes of Repair and Reproduction after Injuries*. These will be continued weekly in the new volume until completed. It is proper to state, that we do *not* owe this course to "our own reporter," and that the lectures are specially revised for the MEDICAL GAZETTE by an excellent physiologist, under the superintendence of Professor PAGET.

The department of *Original Communications*, which forms a very considerable portion of the present volume, comprises numerous papers on every branch of Practical Medicine and Surgery, including Physiology and Pathology. It would be invidious to specify names. The authors of these papers are so well known to the profession, as to render their contributions highly valuable to any medical periodical; and we have to express to them our thanks for selecting the MEDICAL GAZETTE as the medium of their publication.

The *Review* department comprises a notice of one hundred books and pamphlets which have recently issued from the press. In spite of this large number, we are aware that we are still in arrear with many authors; and we can only offer as an apology the statement, that no number of the journal has been allowed to issue without containing the notice of one or more works.

The other portions of the journal call for no particular observations. A full account of the progress and diffusion of cholera in this and foreign countries has been regularly chronicled under the head of *Medical Intelligence*; and all events of interest to the profession, rising above the level of mere gossip or idle scandal, have been duly recorded. The *Correspondence* of the journal has been confined to its legitimate objects,—the record of medical experience, or suggestions for improving the status of the practitioner. Anonymous attacks arising, as they commonly do, out of envy and uncharitableness, find no place in our pages. It appears to us to be only a fair rule in medical ethics, that all letters containing charges or imputations against others should have attached to them the names of the writers; and upon this rule we profess to act. It is the only safeguard against exaggeration or misrepresentation. It is, however, a satisfaction to us to be able to state, that there have been very few correspondents of the journal who have desired to throw upon the editor a degree of responsibility which they have not had the moral courage to take upon themselves. An editor is obviously at the mercy of writers for statements made regarding others; and it is far better that these should not be inserted at all, than that they should find a place in the journal—only to be contradicted in a subsequent number.

In this summary we have avoided all

laudatory remarks on our contributors. Their contributions, which constitute the bulk of the volume, must speak for them. It is very well known that no one ever yet published a paper in any journal who did not fall under the class of "talented" or "distinguished" contributors. Such editorial puffing would, we know, be received as a bad compliment by the supporters of the MEDICAL GAZETTE. If a man possess talent or distinction, it will be found in what he has written; and if he do not possess either, this newspaper system of trying to place him above his level, will only make him appear ridiculous in the eyes of the profession. Although we do not express in language all that we think of the merits of those who have enabled us to add another volume to this long-established periodical, we cannot bring it to a conclusion without again thanking them for the assistance which they have so liberally rendered to us.

Reviews.

A Treatise on the Pathology, Diagnosis, and Treatment of Neuroma. By R. W. SMITH, M.D., T.C.D. Fellow of the Royal College of Surgeons; Lecturer on Surgery, &c. Imperial folio, with Illustrations. Dublin: Hodges and Smith. 1 49.

THIS work may be regarded as a splendid contribution to surgical science. Dr. Smith has adopted the term Neuroma, as suggested by M. Odier, of Geneva, to designate those tumors which are connected with nerves. These tumors may be either idiopathic or traumatic: they are of very slow growth: in some instances solid throughout; in other cases, they are composed of cysts filled with fluid,—they are moveable in the transverse direction, but not in the course of the trunk of the nerve upon which they are seated. Cheselden appears to have been the first surgeon who has given an account of the disease, and the treatise before us is intended by the author to bring to the notice of the profession in a connected form, the facts which have been observed and recorded in reference to this disease. His style is terse, and his remarks are eminently practical. The work is illustrated by fifteen plates admirably executed on stone. Plate VII. is so well drawn, that it has all the effect of an anaglyphtograph. This monograph is creditable to the industry and research of Dr. Smith, and it will no doubt receive that attention from surgeons, which practical information on an important branch of surgical pathology invariably commands.

Correspondence.

LETTER FROM MR. WORMALD TO THE FELLOWS OF THE ROYAL COLLEGE OF SURGEONS, ON THE ELECTION OF MEMBERS OF COUNCIL.

SIR,—It is with great reluctance I have to solicit the favour of your perusal of a letter that I have felt under the necessity of addressing to the President and Council of the Royal College of Surgeons, of which the following is a copy:—

To the President and Council of the Royal College of Surgeons of England.

Mr. President and Gentlemen,—As my name stands amongst those Fellows of the College who are eligible to fill the present vacancies in your Council, I feel it to be an imperative duty to you, to myself, and to the profession, respectfully to call your attention to a circumstance of vital importance.

It is a fact, that a number of Fellows have formed themselves into a club, called the "John Hunter Club," and that a principal, if not the sole object of this Club, is to control the election of members into the Council, by excluding such Fellows from a seat in it as may, on any ground whatever, be objectionable to the members of this Club, and that they may accomplish their purpose with greater certainty. One of the regulations by which they are governed is, that their minority, upon a vote being taken in their Club, shall vote with their majority at the College*.

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* The subjoined copy of the Club regulation has been forwarded to us:—

Law 8.—The decision of any meeting of the Club, shown by a majority of two-thirds of the votes of the members present, taken by ballot, shall be considered as the expression of the Club.

The opinion of the Club thus expressed, shall be considered as binding in honour on the mino-

By such proceedings, if sanctioned or endured, it must be evident that at every election the most meritorious and honourable aspirants to the distinction of being members of your Council, may have their views capriciously, and most unjustly, frustrated; and as it has come to my knowledge that my introduction into the Council will be opposed at the approaching election by this Club, I feel bound to submit to you, that a Club, organised for the purpose I have mentioned (avowedly or not), and assuming to interfere, as I have been informed the members of that club do intend to interfere on the 5th of July next, must be regarded by you as subversive of every principle of fair election, and as a most unwarrantable usurpation of the high and important rights and privileges of honourable, independent, and honest electors.

I protest even against the legality of such a combination of persons, and earnestly solicit your very serious attention to proceedings so likely to effect irreparable injury, to entail dishonour on the profession, and, in my humble opinion, so eminently deserving the immediate notice of the Council.

I have the honour to remain,
Mr. President and Gentlemen,
Your obedient servant,
Thos. Wormald.

I cannot entertain a doubt that the great majority of the Fellows of the College will feel that the formation of the "John Hunter Club," and its object, are inimical to their own most valued interests, independence, honour, and dignity. If gentlemen will consent to belong to such a Club, and should the profession countenance it, every Fellow who may hereafter desire to become a member of the Council, must descend from a reliance upon the public reputation a long series of laborious years in his profession has earned for him, to seek favour at the hands of such a body as I have referred to, or be reduced to the necessity of making a personal canvass of the electors, previous to every election; to which I am persuaded the Fellows at large will not, and ought not, to submit.

It is well known that for fourteen years I was uninterruptedly occupied as a public lecturer on Practical Anatomy, at St. Bartholomew's Hospital, which, during that period, boasted of being the largest school in the empire, and hundreds, if it were necessary, would willingly testify to my capability and usefulness throughout that time; that I have for the last eleven years been assistant-surgeon at the same hospital; and as no man can adduce one solitary objection to my character, as a properly educated and experienced surgeon, I confidently put it to every Fellow of the College, whether he can approve of this self-constituted body meeting in private, and, for reasons wholly concealed from the individual they may be about to injure, combining to detract from his character, and to deprive him of his legitimate position in his profession.

I entertain the unhesitating assurance that you will view the circumstances I have now detailed, as I believe every upright mind must regard them, as being undeniably prejudicial to the best interests of the profession, and only meriting general condemnation.—I have the honour to remain, sir,

Your obedient servant,
Thos. Wormald.

Bedford Row, June 25th, 1849.

Medical Intelligence.

CORRESPONDENCE BETWEEN THE NATIONAL INSTITUTE AND G. J. GUTHRIE, ESQ.

4, Hanover Square,
June 13th, 1849.

Sir,—I am desired to forward to you the following correspondence between the Council of the National Institute and G. J. Guthrie, Esq., and to beg the favour of its insertion in your journal on the earliest opportunity.—I am, sir,

Your most obedient servant,
George Ross, Secretary.

The National Institute of Medicine,
Surgery, and Midwifery,
4, Hanover Square, June 5th, 1849.

Dear Sir,—The attention of the Council of the National Institute has been this day called to the report of a speech purporting to have been delivered by you on the 24th of May last, before the Westminster Medical Society, at the Thatched House Tavern, in which speech the following passage occurs:—

"I know not what the medical politics of the present company may be, and I care not; for, relying on that honesty and justice to which I have alluded as necessary for the governance of men, I have no hesitation in saying that we are perhaps in a more peculiar situation at this moment than

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rity, with regard to their conduct in relation with other Fellows of the College of Surgeons.

A member of the Club has forwarded to us a letter, for which we cannot find room in the present number. He states that the design of the members is not to elect a man because he is a hospital-surgeon, but to select the most fitting person; and the three whom the Club intend to support at the forthcoming election, are Mr. Hodgson, (Mr. Luke remaining), Mr. Kiernan, and Mr. J. Dalrymple—not one of them hospital-surgeons. This may be all very well; but we cannot see the fairness of binding men to vote against their convictions. Such a system is liable to be productive of great mischief. The evil resulting from this swamping of votes in Parliamentary contests is well known.

most public men: having supported the views of those gentlemen who, under the name of the National Institute, claimed redress for the grievances they sustained, we are now obliged to oppose the claims now advanced, because they cease to be claims for redress, but are demands for vengeance. We have with them also changed sides, and, instead of being their warmest friends, are their determined opponents, and simply because these demands are not, in our opinion, consistent with public principle or the interests of the surgical profession. They call on us to resign the examinations and the direction of surgical education to the persons they may appoint to preside over their body, but who, however honourable and learned they may be, are not the *élite* of the anatomists and surgeons of London, to whom only these examinations and such superintendence should be confided."

I am requested by the Council respectfully to inquire whether your sentiments are correctly reported in the foregoing paragraph?

Assuming the report to be substantially correct, the Council of the National Institute have no hesitation in stating that you are completely in error as to your interpretation of the "Principles" to which the National Institute has become a party in the Conference Committee held at the Royal College of Physicians; and, as respects the proposed medical legislation, the whole having been based, so far as surgery is concerned, with a view to sustain the honour and character of the Royal College of Surgeons, and the Conference having in no way called upon the College of Surgeons "to resign the examination and the direction of surgical education."

As the paragraph in question is calculated to increase any misapprehension which at present may exist in the minds of some members of the profession, and feeling assured that your object, like their own, is to promote a satisfactory settlement of this complicated question, the Council of the National Institute take the opportunity of directing your attention to the following extract from their "Report," published in August 1848, and of reminding you, that the sentiments therein expressed are those which have been entertained by the representatives of the general practitioners, from the commencement of the present agitation for medical reform, and also of stating that the present Council of the Institute have not the slightest desire to swerve from them, even at this the eleventh hour.

The Council have, furthermore, no hesitation in admitting, on the part of the General Practitioners of England, that if the object of the Petitioners could be obtained—viz. the concentration of the great body of the profession in the College of Surgeons, with a ten years' franchise, the right of voting carrying the right of holding offices of honour and distinction in the College, under proper limitations, but with no distinction as to whether the individual practises as a Surgeon purely considered, or as a General Practitioner—by which modification of the constitution of the College of Surgeons, the General Practitioners would have an efficient control over their own affairs and a direct influence over the examinations of their own class—that their demands would be satisfied.

The Council would, moreover, be happy to be informed whether you can hold out to them any prospect whatever of a change, such as that suggested by the above paragraph, being effected in the constitution of the College, or of any feasible or practicable plan likely to prove generally satisfactory, by which the College of Surgeons can be opened to the great body of general practitioners, so as to afford them those corporate rights and privileges which are essential to any substantial improvement in the profession, either as respects education or practice?

The Council of the Institute cannot refrain from stating that they are at a loss to understand how it happens, that a member of the Council of the College of Surgeons, so ably and powerfully represented as that College is in the Conference Committee, should publicly take exceptions to the acts of the Conference, a proceeding, in the opinion of the Council of the Institute, at all times subversive of the successful progress of public business.

It may perhaps be satisfactory to you to be made acquainted that it is the intention of the Council to publish this communication, with any reply thereto that the Council may have the honour of receiving from you.—I have the honour to be, dear sir,

Your obedient servant,

James Stedman,
Vice President.

Guildford, Surrey.
To G. J. Guthrie, Esq.

4, Berkeley Street, June 9th, 1849.

Dear Sir,—I have to acknowledge not only the receipt of your letter of the 5th inst., but the correctness of the report of the speech to which you allude, on all essential points, and particularly on those which relate to the National Institute.

It is my intention, as soon as the Lord Advocate shall have laid his proposed Bill on Medical Reform (or by whatever name his Lordship may be pleased to call it more applicable to its nature) on the table of the House of Commons, thus rendering it public property, to take a clear yet compendious view of the whole subject as far as I may be able to do so, in a letter addressed to himself and to the members of the House of Commons who are to legislate upon it. I beg therefore that the Council of the National Institute will grant me permission to include my answer to their questions in this paper.

With respect to that part of your letter which states that I am completely in error in my interpretation of the "principles" to which the National Institute has become a party in the Conference Committee held at the Royal College of Physicians, I would submit to you, that in this error of mine, if it be hereafter proved to be an error, all the Law Officers of the College now participate. At the same time I assure you if ever the results of the Conference Committee, as shown by the Lord Advocate's Bill, shall display the necessary proofs of the mistake into which the learned gentleman as well as myself have fallen, I shall cheerfully acknowledge it. But you must forgive me if I express great doubts of the probability of such a result.

With regard to the last paragraph of your letter, in which you say: "The Council of the Institute cannot refrain from stating that they are at a loss to understand how it happens that a member of the Council of the College of Surgeons, so ably and powerfully represented as that College is in the Conference Committee, should publicly take exception to the acts of the Conference, a proceeding in the opinion of the Council of the Institute at all times subversive of the successful progress of public business," I must beg of you to state to the Council of the National Institute that I am not only sensible of the force and justice of the observation they are desirous I should understand, and in which I concur, but of the candour with which they pay me the compliment to intimate that the exceptions I have taken to their wishes, or proceedings, may be subversive of the successful progress of public business, which they approve, but from which I dissent.

You will also confer a great favour by explaining to the Council of the National Institute that I am not at this moment officially acquainted with the propositions or acts finally agreed upon by the Conference Committee sitting at the Royal College of Physicians. They have never been approved, nor even been discussed by the Council of the College of Surgeons, which body it is admitted by the gentlemen who attend the Conference Committee, are at liberty to approve or disapprove of anything or everything which may be contained in the Lord Advocate's Bill, when it shall be transmitted for their consideration, and which it has been intimated is to be done before it is presented to the House of Commons.

The observations contained in my speech are therefore only applicable to those propositions which the Council of the National Institute have themselves made public.

Permit me, in conclusion, to say that I live on terms of friendship with many Members of the Council over which you worthily preside, and I willingly acknowledge the great injustice with which they have been treated under the Charter granted to the College of Surgeons in 1843; and I should be inexpressibly grieved to give any one of that body the slightest annoyance or offence: indeed, I estimate so highly the admirable manner in which the whole of the public proceedings of the Institute have been conducted, that I should have been very happy to have been a participator in the talent displayed, were it not that, as a Member of the Council of the Royal College of Surgeons, I have on five different occasions taken an oath to preserve and maintain the ancient rights and privileges of that body, which appear to me to be for the advantage of the profession as well as of the public, and which the propositions of the National Institute must, if they acquire the force of law, in my judgment undermine and ultimately destroy.

I have the honour to be, dear sir,
Your obedient servant,
G. J. GUTHRIE.

To James Stedman, Esq.,
Vice-President of the
National Institute.

THE ANTICIPATED RETURN OF CHOLERA. THE following letter in reference to the return of cholera has been addressed to the Commissioners of Sewers by the City Officer of Health:—

"Lancaster Place, June 18.

"Gentlemen,—Within the last fortnight I have found many reasons for believing that an extensive outbreak of cholera is impending. The steps of its approach are uncertain, depending probably on atmospheric variations which it is impossible to foresee; but there is no reason within my knowledge for indulging a hope that the city will continue to be exempt from an epidemic prevalence of the disease. Whether we shall escape comparatively unhurt, or shall suffer from the pestilence in the same proportion as Paris, where a week ago 600 or 700 deaths were occurring daily, from cholera alone—this is a question on which (however alarming may be the doubt) it is impossible to pronounce a decided opinion.

"Under these impressions I think it indispensable to adopt immediately every precaution that can be enforced by Parliament; that notices, addressed to landlords, and requiring them to cleanse and repair their property, should be couched in the most peremptory terms; that the shortest time consistent with law, should be allowed to persons receiving such orders, and that no evasion or delay should be permitted; that in every instance, without exception or distinction, so soon as the legal term of grace has expired, the work neglected by the landlord should be given over for execution to the persons named in the act.—(Vide Act.)

"Experience convinces me that the present staff of inspectors cannot, by any possibility, perform the immense amount of duty necessary at the present crisis: they may be quite sufficient for all ordinary business of the Court, but on an emergency like the present, where promptitude of action is a matter of the utmost importance, their number is absolutely insufficient. For with the present staff, while each inspector proceeds in his duties of inspection from one part of his district to another, it is impossible to enforce the fulfilment of such orders for cleansing, &c. as may have been issued for the districts already inspected—impossible even to know how far those orders may have been complied with, or how far the original uncleanliness was proved. In Glover's-hall-court, for instance, this difficulty led to very serious results, and I have little doubt that a re-inspection of this locality would have prevented those ravages of the epidemic which I recorded in my last report.

"I have accordingly to recommend that for a limited time the following measures should be adopted:—

"1. That a special staff should immediately be organized, charged with the duty of going from house to house in all the courts, alleys, and poorer districts of the city, to examine into the existence of nuisances, and to report at Guildhall on the district examined, according to the subjoined form.

"2. That the inspectors should for the same limited time confine themselves to the task of serving notices and seeing to their due execution by landlords, owners, &c., or, failing this execution, immediately to adopt such proceedings of a summary kind as the act of Parliament allows.

"Without venturing to specify the exact number of men who may be required for this job (a subject on which the Court is most competent to form an opinion), I would merely beg leave to state that the matter is one of extreme urgency, and that I think the number of men to be enlisted for the purpose should be sufficiently large to bring all the poorer districts of the city within the range of a weekly survey. Thus, if the men employed were active and efficient, I have little doubt that within a fortnight this important sanitary review, and all the works of cleansing to result from it, might be brought to a conclusion, and the city be placed in a most favourable condition (of those at least within our present control) for resisting the attacks of disease. With regard to the class of men required for the service in question, it would be necessary that they should have sufficient education to enable them to fill up the printed forms with which they would be furnished; that they should be acquainted with the localities; that they should be in some degree accustomed to deal with the poorer classes in matters like that in hand; and (not least) that they should be persons for whose honesty and discretion some guarantee could be obtained.

"I doubt whether, in an emergency like the present, and for a purpose so essentially temporary, it would be possible to do better than obtain the cooperation of a small section of the police force; and if the Court should be willing to adopt my suggestion, I would recommend that a sufficient number of them should be employed to complete the survey of the city within a period not exceeding six days. (Here follows a table of the information to be obtained in the survey. The heads were—The name of court, alley, street, &c., the general cleanliness, the existence of a stench in a house, privies clean dirty, cellars any filth or rubbish contain in them, stagnant water, any complaint nuisance)

"During the period in which these measures might be in progress I should further propose, if it meet the sanction of this hon. Court, that I should sit daily at a certain hour in this room, in company with the principal clerk, to receive the reports, to examine them one by one, to advise on the issuing of orders, to learn from the inspectors when the orders were neglected, and generally to promote, to the best of my ability, the satisfactory completion of the important measure which I have taken the liberty of recommending to the committee.

"JOHN SIMON."

OBITUARY.

On the 19th inst, at his house, 105, Albany Street, Regent's Park. Mr. George Hall Lambert, surgeon-apothecary, in his 48th year.

On the 16th inst, John Adam Townsend, surgeon, of 48, Finsbury Circus, aged 31.

At Paris, on the 15th inst. of cholera, after a few hours' illness, James Scratchley, M.D., aged 65, late of the Royal Artillery, and Fellow of the Royal College of Surgeons.

REVOLUTIONARY STUDENTS AND PROFESSORS.

The French Minister of War has dismissed from the service five students in surgery, attached to the military hospital, in consequence of their having taken part in the insurrection of June 13. A commissary of police went yesterday evening, in company with another agent, to the residence of M. Barul, Professor of Chemistry at the Polytechnic School, to arrest him on a warrant. While they were engaged in searching the apartments, the Professor contrived to make his escape by a concealed staircase.

SYPHILITIC IRITIS.

SYPHILITIC IRITIS, of a violent character, was in one case reduced only by the mercurial impression. It supervened while the patient was taking Donovan's solution on account of an obstinate eruption; and the continuance of that remedy, in doses sufficient to nauseate (gtt. v. ter die), allowed the disease to progress. Three days' use of calomel (gr. j. ter die) with opium and ipecacuanha caused the return of sight, the absorption of lymph, and recovery. Leeches had been previously used. A similar result is recorded as having occurred in several other instances. —*American Journal of Medical Sciences.*

BOOKS & PERIODICALS RECEIVED

DURING THE WEEK.

The British American Journal of Medical and Physical Science. June 1849.
La Presse Médicale. Bruxelles, No. 26.
Comptes Rendus. Nos. 22 and 23—28 Mai and 4 Juin 1849.
Dr. Clay on Ovariotomy.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, June 23.

BIRTHS.		DEATHS.		*Av. of 5 Spr.*	
Males....	663	Males....	509	Males....	494
Females..	592	Females..	476	Females..	469
	1255		985		963

CAUSES OF DEATH.		*Av. of 5 Spr.*
ALL CAUSES	985	963
SPECIFIED CAUSES	974	959
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	277	198
Sporadic Diseases, viz.—		
2. Dropsy, Cancer, &c.	37	48
3. Brain, Spinal Marrow, Nerves, and Senses	121	123
4. Heart and Bloodvessels..........	31	39
5. Lungs and organs of Respiration	119	131
6. Stomach, Liver, &c.	68	62
7. Diseases of the Kidneys, &c.	8	11
8. Childbirth, Diseases of Uterus, &c.	5	8
9. Rheumatism, Diseases of Bones, Joints, &c.	4	8
10. Skin..............................	0	1
11. Old Age	27	50
12. Sudden Deaths..................	16	11
13. Violence, Privation, Cold, &c....	43	33

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox..........	10	Convulsions........	44
Measles............	29	Bronchitis	40
Scarlatina	38	Pneumonia	87
Hooping-cough	55	Phthisis	127
Diarrhœa..........	17	Lungs	8
Cholera............	49	Teething	6
Typhus............	46	Stomach	5
Dropsy	10	Liver..............	9
Hydrocephalus	27		
Apoplexy	23	Childbirth	3
Paralysis	18	Uterus	2

REMARKS.—The total number of deaths was only 22 above the weekly vernal average. The deaths from Cholera have undergone a slight increase, having been for the last four weeks 9, 23, 42, 49. Of the 49 deaths registered this week, 11 were under 15—32 at the adult period—and 6 among persons advanced in life. They occurred chiefly in the south and eastern districts. Hooping-cough was unusually fatal.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 29·89
" " " Thermometer[a] ...... 59·2
Self-registering do.[b] .... Max. 106·8 Min. 33·8

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·0. – Sum of the daily observations taken at 9 o'clock.

METEOROLOGICAL.—The mean temperature of the week was half a degree above the mean of the month.

NOTICES TO CORRESPONDENTS.

Notice.—In order to prevent delay in the insertion, it is particularly requested that all letters enclosing Advertisements be marked on the outside "*Advertisement.*"

M. B.C.—An application should be made to the Army Medical Board. We doubt whether the proposed substitution would be received.

Mr. L. Newnham.—All applications respecting advertisements must be made to the publishers of the journal.

The communications of Mr. Barlow and Mr. F. Le Gros Clark will appear next week The space occupied by the Index in the present number has rendered their postponement necessary. For the same reason we are obliged to carry over the Reports of the London, South London, and Manchester Societies.

Communications have been received from Dr. Hull, Mr. Lonsdale, Mr. Pretty, and Mr. R. H. A. Hunter.

We have received several letters respecting the John Hunter Club, for which it is impossible to find room. We refer the writers to the correspondence on this subject, inserted at page 1111.

THE GENERAL INDEX.

We have to announce to our Subscribers that a GENERAL INDEX to the *first* 40 *Volumes* of the LONDON MEDICAL GAZETTE will, it is calculated, form a large Volume of about 700 pages. The cost of the INDEX VOLUME, respecting which many inquiries have been made, will be Twenty-four Shillings; and it is proposed to commence it so soon as the Names of *Five Hundred Subscribers* have been obtained.—The printers, Messrs. WILSON AND OGILVY, 57, Skinner Street, will receive the Names of Subscribers.

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